

COCKBURN — 1697







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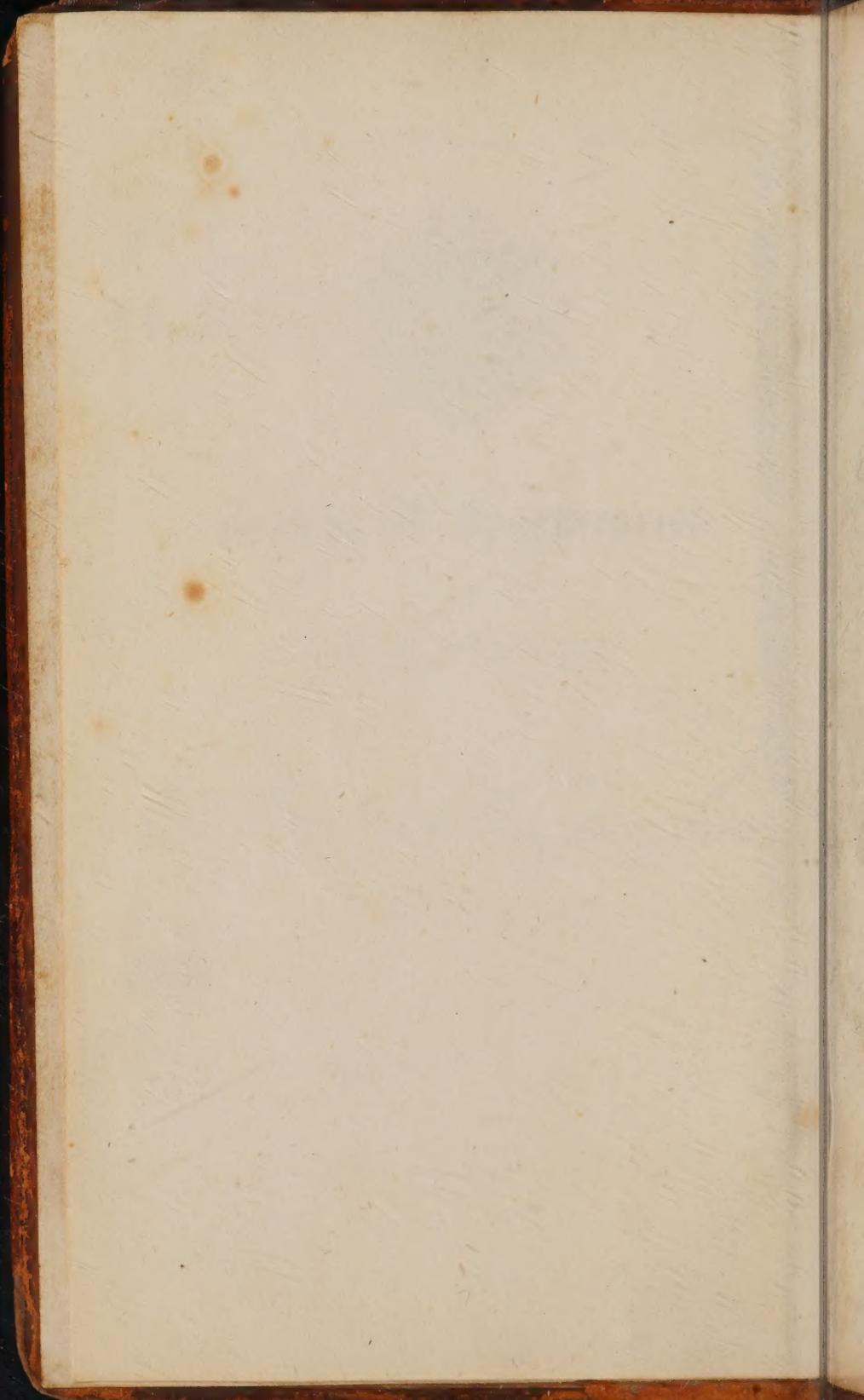


Society of Apothecaries.

PRESENTED BY

W. Bramley Taylor
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Gulielmus Cockburn M.D.

A
CONTINUATION
Of the Account of
The Nature, Causes,
Symptoms and Cure
OF THE
DISTEMPE RS
That are incident to
Seafaring People.

Illustrated with some remarkable
Instances of the Sickneses of the
Fleet during the last Summer, histo-
rically related.

To which is prefix'd,
An Essay concerning the quantity of
Blood that is to be evacuated in Fevers.
Being the Third Part of the Work.

By *William Cockburn*, of the College of
Physicians, London; Physician to the
Blue Squadron of his Majesty's Fleet, and
Fellow of the Royal Society.

L O N D O N,
Printed for *Hugh Newman*, at the Grashop-
per in the Poultry, 1697.



TO THE
Right Honourable
John Lord Berkeley,
Baron *Straton*, Admiral and
Commander in Chief of His
Majesty's Fleet, &c.

My Lord,

Ocasions of Addressing those of your Lordship's Worth and Quality, have as often been abus'd by the undiscreet Panegyricks, and fulsom flatteries of cringing Parasites, as they have been eagerly catch'd at. My obligations to your Lordship make me

A 3. glad

The Epistle

glad of an opportunity ;
but I confess, I think a De-
dication an improper light
for that sacred thing *Nobi-
lity*, and the great actions
of Noble Persons : Grave
History, and a good Hand
do that picture a great deal
more to the life ; for then
there's no design, it never
sullies, and the colours hold
through all ages ; yet if I
had as strong inclinations
to Flatter, as my subject is
tempting, and hands me
fairly into an opportunity,
your Lordship's known and
declar'd aversion to all such
practices and flaunting cu-
stoms, a true stamp of en-
grain'd

Dedicatory.

grain'd Nobility, that never wanted these false, (and may I say) satyrical lights of silly flatter rs, who never yet made a better Hero, than *Æsop*'s bird with borrow'd plumes: I say, that if my desire was as great, as my subject's inviting, yet this true *Greatness* of your Lordship's would justly check all such unreasonable and impudent designs, that would so tickle these poor Creatures that are infinitely pleased with borrowed Feathers, when their *Gnatho*'s after a long study, can find nothing so good to equip them with,

A 4 as

The Epistle

as a piece of old Marble,
or a Monument only valua-
ble for the want of a Nose
or Leg broke off by time.
But tho your Lordship
hates as inveterately, as you
do not want any such ridi-
culous praises, and I, of all
things, hate a Sycophant
the most ; yet I may ac-
knowledge, that my Ob-
ligations to your Lordship
are very great , and that
'tis only Gratitude that
pushes me forward to give
you the trouble of This ;
but especially, since your
Favour and extraordinary
Encouragements , have
mightily contributed to-
wards

Dedicatory.

wards the productions in these sheets, that now venture into the world under your Lordship's protection ; and I will hope that you'll not only protect this stranger, but accept of my slender Thanks ; till I have a better opportunity to acquit my self, as ought,

My Lord,

*Your Lordship's Most Humble
and Faithful Servant,*

W. Cockburn.

A S THE

THE PREFACE.

I Am oblig'd, with the modern Poets, to bespeak my Reader's favour to the following Sheets. They contain nothing but what is fact ; yet, That appears too simple in their primitive dress, to bear the Censure of some peerish Critics : The first draught was done at Sea, and it was my business for an hour after dinner, only to keep me from sleeping ; else these Observations had lain to this day, wrapt up in that rubbish of an order, in which they were made ; for soon after my Summer's expedition was at an end, I was commen-led to attend the Fleet, under Sir Cloudesly Shovel, into Spain, which is the sole reason, why these Papers

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Papers are not sld from some of their roughness, that might justly have forbidden their seeing the light, if my design of publishing my yearly observations shou'd not have been broke off: and I know that Ingenious and Candid Readers will more easily dispence with this Ore, than to have had no Metal at all. But that they might not prove entirely ungrateful, as the reading a continu'd series of Observations always is, I have endeavour'd to intersperse something that's more of Theory and Reasoning, as often as the breadth, nature and design of the subject would allow me: I never song't a Digression, yet when I judg'd it a propos, and for my Reader's diversion, I neither shunn'd it, nor run it out to too great a length. Histories of Diseases are not for wearing off a melancholly minute, however useful they may be; and therefore I inclin'd to season them with an exercise of reason, which

The Preface.

which gives the greatest satisfaction to great and thinking Souls : I have related the Histories themselves in all their circumstances of propriety and time ; and have not scrupl'd to propose new medicins and even methods of Cure, when they have been the most reasonable, faithfully relating the success that attended the practice. The relating of Observations is the peculiar province of Physicians that have liv'd long and have had a great practice, or of any One that has been much among sick people, and with all thi's, they ought to be very capable to know how to ask their Patient's proper questions, to hear what they relate, and distinguish betwixt these Symptoms that must of necessity attend such a Disease, or at least this distemper in a Patient of such a Constitution, and those that now appear by some accident or a peculiar practice. Otherways, men may live a great while, nay, as long as the World

The Preface.

is to last, and yet have no more experience, than they had the first hour they began their Trade; whereas, when they are thus qualified, the not only improve themselves to an unconceivable pitch for the the good of their Country; but they are capable too, to hand down to succeeding ages, these natural Histories of Diseases, which become as certainly and well known by their symptoms, and as easy to be distinguished as Silver and Gold, by the properties we relate to belong to each of them; and the Novices in Medicin being fitly moulded in the Schools of the Philosophers and Mathematicians, approaching the simple but noble discoverie of the modern Anatomists, not entil'd with the ridiculous jargon of an Usus partium, and learning to know medicins these instruments of health he is to be an absolute master of in a way he woulc naturally discover a Stone not to be a t fl, a Man, or a Horse, and enquiring what

The Preface.

what relation they may have to us how they may affect us, without being prejudic'd by the principles of any sect of Philosophers, he may have read: then reading and comparing by these helps of Philosophy, Mathematicks, Anatomy, Pharmacy, Experimental Knowledge, &c. such Observations we suppose him to have now made to his hand, he must needs enter into the world upon such foundations, better qualified and of more and greater experience, than one who has already practic'd as long as Methuselah lived, but of an other education and make. We talk a great deal here of the Barbarity of the Chinese, and their ignorance of a great many Arts that are very well known among us; yet we deservedly admire the stupendous and astonishing relations we have, of the progress they have made, and the certainty they have attained to in Æsculapius's Art, and that with the native plants of their Country, and the

The Preface.

the only reason we can assign for their singular and great improvement in this most noble and useful Art, (which by restoring us to our health, makes us enjoy our Estates, our Liberty and our Relations, gives us all the satisfaction Mankind is allowed to enjoy in this troublous life, and ev'n makes us conquer our misfortunes) is that they initiate their Children from their tender years in its mysteries, by a constant attendance upon their Parents, who are often Kings, Princes, and Brachmans, as well as Physicians, and that they enjoin them a strict observation of their Parents practice without being diverted and amus'd with any thing besides, when they are upon the study of so human and heavenly a Knowledge, which can bring relief to their languishing friends, and solace and support their decaying nature: So there is no wonder if one that is instructed in the experience of many former ages, having his head turn'd, and his nature

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ture perfectly moulded that way, does arrive to a greater perfection and certainty in that art, even in a more barbarous and ignorant Country (if we may suppose them so) than they are capable to do in Nations that are more famous for Learning, where medicin is begun with nothing so great an advantage, nothing so much studied not only as there, but even as they themselves study other things of less concern, and all comprehended in the short life of one man. I do not write this with any reflexion upon our own age, tho I must own that we have as great a share in this, as our Ancestors, when the telling a pleasant story, a piece of wit, a gloomy and sullen melancholy alone can entitle us to the fame of great Physicians; and which is worse, pretence and impudence are the only stock and furniture of some. There can be no remedy for this till Patients shou'd become fit judges of their Physicians, which is never to be expected. But since we see that

Ob-

The Preface.

Observations are so necessary and useful a piece of Medicin, let us but see what helps the Authors of this kind of Learning give us. We ought to look back into all the ages of Medicin, if we were to be exact in this matter, but the talk has been so difficult, that it has been either industriously shunn'd or very ill performed hitherto by the Learned that have lived before us, till at this time the learned Monsieur Le Clerc has undertaken this work, and has already favour'd the world with his first Tome, where he gives us hope of his carrying it on to our time. 'Twere needless to manage the matter in his way, tho a Preface would admit of it; since the daily complaints of practitioners are about the short coming of such observations to their daily business, and how often they lose their way in such dark paths. But let us compare the Observations of Physicians with a rule which we ought to make to our selves, about an exact and

The Preface.

and genuin ennuination of symptoms, numbers and force of pulses, colours and quantity of Urin, its consistency, time of breaking and the like, the time of the year, the Patient's age, the time of the disease when we see him, what medicins are given, how kept, and what is the event, and how the medicins took their effect, with other more particular questions that may more particularly settle the difference of the Disease.

I say, if we compare the Books of observations with this Rule, I am afraid we will find them of very little use, not only Forestus, Hollerius, Horstius, Platerus. &c. but greater Masters of greater antiquity sinking under the apprehensions of being tried by this general rule; 'tis not many Names, many Countries, and many Streets of any one City, that make an observation compleat, but a little more: and really looking into all the modern and ancient writers of Observations, I must own that 'tis my opinion that our own Dr Sydenham

The Preface.

denham has writ in the most exact and particular way, tho he has not come quite up to the former Rule. 'Tis surely in Medicin as in all other other Physical knowledge, the more circumstances we know, the better judgment we are able to make. This is the scheme I have laid to my self in writing my Observations last year, and this, which I have endeavour'd to pursue as far as the conveniency of the place I was in did allow, and tho I saw people in all the Ships of my division yet I only thought fit to relate my Observations in 3 or 4, where I was most capable to satisfy the particulars of my own rule, as I have expressly said, in the beginning of the 2d part of my Sea-ficknesses, tho one or two who pretend more to the way of Writing than the way of Medicin, laid this as a heavy charge to my door, but the little, one of them writ, especially in his own profession, may evidently convince the world, that he's almost as wretched a Writer as he's a weak Physician: 'Tis true, his Trades

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Trade's to be a Physician, but his pretences are to Wit. I have spent too much time upon a thing that's the diversion of the Apothecarie's Boy, in every Bill he sends him, which he's forc'd to model in another way; Since I neither stand nor fall by his censure, I neither value the Book more or less for his character, which I knew he would give it, without a reading. I first began a book of this subject, because it was wanting, and 'twas my particular province; and I must acknowledge my obligations to the world for the entertainment they gave it; tho it came abroad in the Summer, and when the interruption in the Currency of money did so much discourage all sorts of Trade: but above all, if I was to value the Book, I would upon the encouragement it had in the most famous and learned University of Oxford, the Glory of all Europe for its noble fabrick, but a great deal more for these famous and shining lights she sends abroad at all times, and in-

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in so great and so singular a number, that she's but deservedly the admiration of the whole earth. But 'twas neither fame nor a desire of praise that put me upon this task, but an inclination of doing good in the way providence has put me into; and all my wishes are only, that this and the former book may be able to menâ some of the many mistakes I found, in that business, and if I am so happy as in these Observations, to lay one firm Step, by which others may advance to a greater certainty in their practice, I have attain'd to a perfect enjoyment of my propos'd design and inclination.

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A

A
CONTINUATION
OF THE
History of the Diseases
IN HIS
Majesty's Navy, &c.

I Endeavour'd last year, to give a
genuin and true account of the
rise and nature of the Sickneses
at Sea, from considerations about the
way of their living ; and the Indica-
tions of Cure, which were the results
of that Reasoning . and to these I ad-
ded the historical observations of that
year, which made a more particular
and practical part of that Book : And now
being to illustrate that first part, The Con-
tinuation, and perform my promise in the se-

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cond,

cond, I will confine my self to the Method I propos'd for relating these Observations, and pursue it with all the Candidness and Integrity that can be expected, without repeating any thing that has been mention'd already: and therefore I must desire every one that will judge of *this*, to recollect the general Theory in the *first*, and the most reasonable Indications in the *second* Part, as the best way to prevent mistakes and obscurity. Only I must confess, that tho I have put it beyond exception, by arguments from reason and experience, that Evacuation in the case of Fevers is absolutely necessary towards their Cure, and tho I have also declar'd that this Evacuation is to be proportionable to the interrupted perspirati'on, that causes our Fevers, that is, either in the same quantity, with the detained steams, or at least in such a quantity as may procure more liberal secretions; so that if the quantity that is evacuated be not equal to the quantity of detain'd steams, yet making the secretions more freely, there may be a quantity evacuated equal to these steams, by the secretions that are

are now begun : Yet, I say, I must confess that I may seem to be wanting in setting a standard, or certain mark, which may direct our Surgeons in the difficult stages of these Evacuations, with as much certainty as a fix'd mark in the Heavens directs our Sailers in their Voyages. 'Tis true I might alledge that the profound intricacy of so particular a part of knowledge, and the many blunders I have observ'd in the most learned Authors that have but touch'd upon these difficulties, tho never so slightly, have deterr'd me from venturing upon so nice a Task ; and after so reasonable an excuse I cou'd not be blam'd for any considerable neglect or omission. But since this knowledge, tho never so hard, is extremely necessary for the fixing of a certain Method of practice, I'le set out for once, and if I do mis-carry, 'twill be in good company, among the masterly Heroes in Medicin.

Since the quantity to be evacuated is proportionable to the certain'd sites for staems, and the quantity of staems may be very easily valued, (as I hope I shall prove in its proper place), as I

have

The requi-
sites for
this Eva-
cuation.

have already intimated in the general, that it exceeds not two or three pounds ; 'tis plain that either two or three pounds are actually to be evacuated, or such a quantity that may procure new secretions which will evacuate the requir'd quantity. And 'tis no less certain that this is to be perform'd according to the different strength and constitutions of our Patients, and with such Instruments as may not require a larger Evacuation by rarefying and giving a new motion to the Blood. 'Tis here the difficulty lyes, to know what quantity our Patients strength will allow to be evacuated, and to make an estimate of the instruments we use on this occasion, and of the effects they produce, besides our primary intention. Now 'tis the uncertainty of the *Sweating Medicins* we use for compassing our design of evacuation that occasions this great difficulty in our first intention, because sometimes they are given without any success, but heighten the *Pulse*, and encrease the other severe *symptoms* we see in *Fevers* ; and at other times taking effect, and causing an excessive evacuation through the

the pores of our Body, they send our patients out of the world another way, instead of curing them by a due quantity, which no man can pretend to expel by these Medicins, which we are so little Malters of, that we are not able to forutel, with any tolerable exactness, the quantity of steams discharg'd that way, nor the *additional heat* produc'd by their small parts. Next to them are purging medicins, of which tho' we are a great deal more certain, yet they are not exempted from some of the difficulties that attend the others. So that the surest instrument for performing our design is *Phlebotomy* or *Bleeding*, tho' even this may create a *stronger pulse*, a *greater heat*, and the like, than was before, after losing ten or twelve ounces of blood in a certain circumstance, which I shall have occasion to speak of here. And therefore *bleeding* being the most certain way, I will for once suppose all the *rest* as certain, or at least signify by this more certain way what we intend by the rest when we apply them them to evacuate the quantity we desire, according to the strength and constitution of our patient.

And now when I am to apply *Venesecti-*
on to this design, I must confess I can
 hardly forbear running out into a long
 digression concerning some noble
 Theorems about the great and differ-
 ent effects of bleeding, that depend
 entirely upon the infinitely useful de-
 monstration of the circulation of the
 Blood, that crowd into my thoughts;
 but I must at present restrain my
 self now, because the general ac-
 counts we find in Authors about
 bleeding, are only as it evacuates such
 a quantity; I will shew in the first
 place how imperfect and useless the
 advices of our great Masters are in
 this affair, and then inform the Rea-
 der, what other ways are to be taken
 for attaining a greater certainty, tho'
 the more particular account can ne-
 ver be properly apply'd in this place;
 and this will exactly answer what I
 proposed:

The Rules and Advices which Wri-
 ters in Medicine have given us in this
 matter, are to let blood according to
 the *strength of the Patient*; till he faint
 away, till we have taken away enough,
 and till it change its colour from
black to red; and
 lastly,

lastly, some others who think they have given the last touch to this question, take their marks from the *bigness* and *fullness* of the *Vessels*, and so take away as much as a man may be supposed to lose in a day without dying, and this way they pretend to confirm by some instances from practice, in which, tho I hope they succeeded in their own practice, yet I doubt not but I shall convince the Reader, of the unhappy state of those sick people that are drain'd of their Blood, by such unsteady and uncertain rules.

But to enquire into the first of these, which advises us to let our Patients blood according to their *strength*, 'tis certain that must never be exceeded ; yet there are a great many designs in bleeding, in which that is not so often to be respected. Not but that if the quantity to be let, should exceed the Patient's strength, that consideration would become the first and greatest ; yet, I say, there are a great many designs in bleeding, that the quantity to be taken away is so small, that the strength of the Patient can never be brought into question : For instance, in making a

revulsion, an old and confirmed operation and practice, tho never to be accounted for, but by supposing *Harvey's* noble Theorem of the circulation of the Blood, however contrary to that Doctrine, the most of our modern Physicians have been pleased to think it. I say in making a *revulsion*, or by determining the motion of the Blood, more towards one part than another, which is to be practiced upon a thousand occasions; the quantity to be let, if other circumstances are observed, very often exceeds not six or eight Ounces in the strongest constitutions; now such a quantity can never be supposed to bring our Patients strength into doubt, 'tis evident that in such cases this great rule is, (I had almost said) of no use at all to us. But next, if our Patient be troubl'd with a Distemper that proceeds from too much blood, and we desire to be so nice, as to relieve him of all the offending quantity, and not to impair his strength, or having others sicknesses that require *Phlebotomy* for their cure, and the strength of the patient comes in competition, so that is never to be injur'd; yet this Rule

Rule is so precariously injoin'd, that no Physician can be instructed, how to put it in practice; which the learned Galen willingly confesses. *Nullam rem, says he, aequa artem medicam conjecturalem facere, quam Medicamentorum quantitatem.* That nothing makes the Physicians Art more conjectural than the dosing of Medicins. *De curat. rat. per sang. miss. c 12.* But this appears more evidently by Physicians Consultations in acute Diseases, concerning a healthy young Man affected, for example with a *Fever*, *Pleurisie*, or *Quinsie*, they all agree, and are of one judgment, that nothing can so securely rescue him from this imminent danger, than the taking away of as much blood as his strength can bear: yet assoon as the Vein is opened, and the Patient has lost some nine or ten ounces of blood, one of 'em begins immediately to try by his Pulse how far his strength is impaired; and after a round Trial has been made by them all, they can come to no positive agreement about their Rule; while one thinks there is too much, another too little, and a third just enough taken away; so that however they seem'd agreed

agreed about letting him blood in the general, and in as great a quantity as his strength could bear ; yet they cannot condescend about the time of stopping it, and the rise of all this difference is only from their ignorance of their Patient's strength, which they thought so easy, as to settle it for a Rule in this operaration.

the other
false. Now perhaps they are to measure the strength of the Patient by bleeding him till he faint away ; and if this be set up, as more evident than the first, 'tis so far from being so, that 'tis a great deal more obscure : for very many who are to be let blood till they put on this emblem of pale Death, faint away, not only after losing a very moderate quantity, but even after the loss of two or three ounces, or immediately after the vein is cut ; or even by seeing any other persons blood, or the Lancet it self. What's then to be done ? nothing ; but the wound must be tied up, and the bleeding delay'd till a fitter opportunity. 'Tis true, the bleeding may be put off, but the cause of the Disease will not adjourn, but double its force and dispute the command of the subject. Up-

the other hand, there are many who could suffer all the blood in their Body to run out, before they faint away, which often happens to those whose dressings fall off in their sleep, and make their Bed swim with blood, tho sometimes they themselves recover.

The third rule is just as satisfactory as the other two; for when they advise us to let so much as we may think enough, it is evident that there will be as many opinions about this enough as there are Physicians, and perhaps more; for while some are for bleeding and others not, they that agree in their judgments for letting Blood, differ about the quantity, and very often the business is carried by him, whom age alone gives the killing authority, or an habituated impudence has taught to overtalk the rest; so that we may very well say with the learned Galen, *Fortunatum esse agrotantem qui in manus boni Meaici inciderit, aut cui fortuna seu Deus potius ita faveat, ut eam ceteris præ-
talere sententiam faciat, quæ sit utilior:* 'That sick person is very lucky who falls into the hands of a good Physician,

cian, or whom fortune or rather God
 Almighty favours so much, that he
 makes that opinion prevail, which is
 the most useful. Now this third Rule
 is certainly true, but at the same time
 'tis very obscure and hard to be un-
 derstood ; this is an aim or design in
 every bodies eye, but it is not so ea-
 sily performed by most Physicians, for
 the reasons we gave before, and
 what more learning does a Doctor
 show, when he orders a Surgeon to let
 so much as is sufficient, than a Wo-
 man, who seeing the blood run out,
 desires them to take no more than
 may be enough. Yet this *enough* is
 only presum'd to be known, by the
 other signs we have just now con-
 demn'd, and therefore 'tis plain, how
 well 'tis like to be done ; and how
 certain a Rule this will prove.

And when they persuade us, with
 Hippocrat. Hippoc. to make the *colour* of the *blood*
 Rule very the rple and standard of the quantity
 uncertain. that is to be taken away, they confine
 this useful and noble operation within
 too narrow bounds ; and to say no
 more, if the blood was only to be
 taken away when it is black, tough,
 and seizie, and till it become red ;
 the

the redness of the blood being the mark beyond which we are not to go, 'tis evident that when the blood is so, there will be no want of bleeding. Yet, in a great many *Apoplexies*, *Fever*s, &c. the blood is not often discoloured, at least not very considerably, and yet this operation is extremely useful and necessary. Besides, when one of the best habit of body has just fallen from a high place, a wise Physician easily foresees that the vessels of those parts that come first to the ground, will be considerably compress'd, and that by this compression the blood cannot move so easily through those parts, and by its stopping there, will produce terrible symptoms, according to the greatness of the compression, and the office of the part whose vessels are thus compress'd: And therefore, he thinks it necessary, both for lessening the quantity, and perhaps quickening the motion, to cause this person to be let blood, and that in a considerable quantity, with very great success. Yet the blood in those people, immediately after the fall, is not much, if at all, altered from what it was before the fall, and
being

being then suppos'd to be of a good colour, or red, 'tis evident that by this Rule he could not lose an ounce, and the consequence would be, most troublesome and dangerous *contusions, Apoplexies, Rheumatical and Pleuritical pains, difficulties of breathing, a Fever, and the like*, which we see happen upon suth occasions. But upon the other hand, let us suppose that blood was never to be taken away, but in this ill colour of the blood (which we see is not so) and till it has acquir'd a better one, yet they cannot so qualify this Rule, that we may know the degrees of this ill colour, and how much blood we may take away before it acquires a better one, and whether the blood that seems necessary to be evacuated, can be spared by the Patient, which would have been highly useful, and even necessary for making their Rule complete; whereas by our historical account of the last year, 'tis evident that the blood may be mightily chang'd by an *interruption of perspiration*, and now in case of a fall, in less than 24 hours, and that bleeding may actually dispose the blood for becoming better, by promoting the *secretions*,

tions, and recovering its colour and strength in almost as short a time as they wete lost.

Now one that speaks very high on this subject, and whom the rational bleeders at this time follow, says we can never fail, if we have respect to the fulness of the vessels, and the quantity of blood a man may be reckoned to spare. But this Rule is too general to be put in practice: 'tis true, as he says, that fat people, whose veins are generally small, and consequently cannot contain much blood, if they be drain'd of an indifferent quautity, will feel the inconveniences of the want of blood, or of a dispirited blood, very soon and fatally, by cachetical diseases and a Dropsie: Yet it is no less certain, that *melancholy splenetick* men, or women that are troubled with *vapours*, whose vessels are generally wide, and actually contain a great deal of blood, and by this Rule can spare the most; yet they, for the most part, can never bear so large a bleeding, even as those fat people we just now spoke of, and very seldom can endure the los of ten or twelve ounces of blood without a sinking in their heart (as they call

This, the
most false.

call it) dimness of sight, or as it is expressively called by the French, *une Défaillance des esprits*; so that their over-much comes sooner than that of the fat people themselves, which plainly contradicts this Rule. Now, I would gladly ask any of those Authors, whether or not the other part of the Rule, *What a man can spare*, be not the same with that of *the strength of the Patient*, which we find to be very true, but not plain enough to be of any use: Or if they think they may take as much blood away, as we find people have lost by *wounds, bleeding at the Nose, Piles, &c.* without losing their Life; they may if they please, but I shall never think it reasonable to have recourse to a Remedy, which no less than the distemper must always require the help of a Physician. ¹I was upon this precarious and general way of practice, I saw a learned man, and a Physician too, who had been sick of a Looseness for some weeks, if I may not say months, by which he was brought to a very low condition; yet I know not what odd fancy possest him who was call'd to his assistance, to take from him 12 or 14 ounces of blood

blood at that time, and I think repeated it next day, contrary to the rules of common sense, as well as of Physick, with as great boldness as indiscretion, and of which the Sufferer was so sensible, that when I was propos'd to be sent for by some of his friends, he said he was convinc'd of their mistake, but that it would oblige men of their Character and Dotard Seniority to send for a younger Physician; and so he ended his days with a vast deal of Ceremony. I am sorry I must relate so ungrateful a Story, but 'tis but one of too many I have seen, tho I must confess there are as great mistakes, and greater, occasion'd by the neglect of bleeding; and therefore since on both sides, *they* are *fatal* and *pernicious*, 'twou'd be needless to observe, that there ought to be a great deal of care taken about it, not only in performing the operation, which is the easiest that can be, by an Instrument; but in determining the just quantities in different Patients, which you see Authors have endeavoured by desiring us to let them blood according to their strength, as much as is sufficient, as much as they can spare,

spare; which are all the same thing; only I think better express'd in the first. But the question at first ask'd was, *what will the Patients strength bear, what is sufficient, and what may be spare*, which is left in as great obscurity as when they began it.

Now to clear this a little better than it has been by others. 'twould be necessary not only to write a *Book of Phlebotomy*, but for greater distinctness to apply the *consequences* of its noble *Theorems* to particular *diseases, constitutions* of our *Patients, seasons of the year, &c.* which 'tis plain are foreign to my subject. Yet to direct my Brethren in the Navy in their thoughts and practice, as well and shortly as this confinement will allow me, that they may make evacuations fit to discharge the excessive quantities of detained steams, without impairing or destroying the strength of the Patient, I shall propose these two ways, which if rightly enquir'd into and thought upon, cannot miss of success.

Proposals
for better
under-
standing
the quan-
tity of
Blood-let-
ting.

And first, since the *strength and velocity of the blood*, is to be understood by the *Pulse*, 'tis to *that* we must have regard, that we may know how far they

If they either exceed or are lower than their ordinary measure; and proportionably to the number of pulses, more than in a natural state, so to let blood, that the blood after venesection may come to a greater cohesion, may not be so much attrited and broken down, and so there may not be separated so great a quantity of animal spirits. Or the pulse being *depress'd*, very *full*, and not so *frequent*, we ought to let blood, not only in a quantity able to raise the pulse, and make it more frequent, but even afterwards to abate this frequency by a larger bleeding as before: For there is nothing more ordinary than in the most natural fullness (if I may so say) where there is a *Plethora ad vasa* (as Physicians term it) a great abundance of the best blood, the fittest, of its own nature, to make animal spirits, and to produce all the consequences that follow upon good blood and a great abundance of spirits; I say there is nothing more ordinary than to have a *depress'd* pulse as I describ'd but now, in a *natural* or *artificial* fullness; for the blood is so confin'd within its own vessels, and its parts so crowded one upon another, that

that there is not a sufficient secretion of its fine and subtle parts, but ev'n by this great quantity the distractile blood-pipes being very much distended, compress the nerves over all the body, and hinder the conveyance of the animal spirits into, and thro these vessels, according to their force of going outwards, and the resistence of these in the different parts; so that tho there is a greater quantity of blood contain'd in the vessels, yet that being propell'd or driven forwards with less force, will occasion a full, tho slow, pulse: and therefore since this less secretion of animal spirits, their slower motion, &c. proceeds entirely from the quantity of blood contain'd in the veins, but especially the arteries, and produces the effects of a real want, yet its motion is only to be heightned, its *sense of greatness* to be advanced, by taking off such a quantity that may remove this huddling up of the blood, and make the secretions more free; that so there may be a greater quantity of spirits deriv'd into, and determin'd thro, the whole series of the nerves, upon which there will follow a quicker and greater pulse; tho if it exceeds

exceeds its natural state in these properties, another bleeding must be appointed in pursuance of the above-mentioned design, which will prevent the use of bleeding in Fevers, as we use a charm to blood, and that all.

Now in both these cases you see the *natural* pulse is the *standard*, and before you can know whether it is *depress'd*, *slower* or *quicker*, you must know that which is natural to which the rest are referr'd; and not only so, but before you can determine any quantity of blood to be taken away in either of these cases, you ought to know what *cohesion*, what *looseness* is fit to make the pulse so much quicker, or depress'd, or to make an estimate of the number of pulses by the blood in the best state, and of their strength: the last of which I intend to attempt in a Review of my *OEconomia Animalis*, that it may want nothing of the perfection I can give it, and may become more worthy of the learned Mr. Bridgeman, under whose protection it ventur'd into the world with so great advantage.

Yet

Yet the first is very considerable, and ev'u necessary for its use ; for unless we know the natural pulse of every single Man, we are call'd to, we can never know, when it is sickly and defective ; for example, supposing that more especially the number of pulses peculiar to men were of three sorts, as I have endeavoured to prove them to be in my Animal Oeconomy, *viz.* from 55 to 65 in some, from 60 to 70 in others, from 70 to 80 in a third sort, and all in the same part of time, *viz.* a minute ; 'tis evident, that if he who has sixty for his natural pulse, comes ever to beat eighty, the motion of his blood must certainly be more than naturally augmented, that is, he has a Fever ; since that is only an immoderate velocity or quickness of the motion of the blood, accompany'd with heat. 'Tis no less certain, when a pulse that beats naturally 80 in a minute, comes down to 60, that the person labours under some cachectical Distemper, and a want of spirits, except his pulse be depress'd : yet both these are the natural pulses of several people, beyond which 'tis not convenient to go, and to which their

their other pulses are to be compar'd. And therefore it would be necessary to settle this affair, and to enquire into the peculiar pulses of every constitution, that by them and other concurring signs, we may be infallibly guided, not only in Evacuations, but other administration in Medicin. However, I shall bear to proceed in this Enquiry, since I have treated designedly, and at large upon that subject, in my *Oeconomia corporis Animalis*, to which I refer those that love to be informed, and do hope to see that matter more fully done, in some practical Treatise of pulses, with which some generous Promoter of useful Knowledge may one day oblige the public.

The second thing I would propose as useful in this matter, is the application of the Thermometer; for since the warmth of our blood, another pathognomical sign of a Fever, depends upon its motion, as I have often proved; if we can settle the warmth that is proper to every constitution, or proportion the warmth to the certain numbers of pulses in the particular constitutions; we may, by

by applying the Thermometer, not only know how far the blood has exceeded its natural motion and warmth, but even, in other cases, how much it has fallen from them too ; and because the only difficulty in discovering this excess and diminution, may consist in the comparison with that warmth, which is peculiar to every constitution and number of pulses, which has never been particularly consider'd, I will endeavour to lay down my observations on this subject. And first, the heat of a man's body, whose pulse is of the first sort raises the Oil in the Thermometer to about 16 or $16\frac{1}{2}$ degrees, the pulse of the second to $17\frac{1}{2}$ degrees, and that of the third to about 20 or $21\frac{1}{2}$ degrees. And therefore the differences of the degrees will not only make up the true warmth and different pulses, but comparing the warmths upon occasions in Fevers we can find how much more it is than that which is natural, and even the exceeding numbers of pulses, which will not only be of infinite use for evacuating in Fevers which we propose, but if we compare the different and vast excesses of heat that

that may be in our body, will soon be convinc'd, that the most violent symptoms may proceed from them, tho they seem never so opposite to each other in the judgment of the unskillful: and this still the more easily, if we observe how different the effects seem to be, which proceed from the various degrees of the Sun's heat; for example, the Summer's heat in the air raises the Oyl in the Thermometer 0 7 gr. $\frac{1}{2}$, The heat of a man's skin whose natural Pulse is sixty in a Minute, to 16 gr. $\frac{1}{4}$, The heat of boiling water, to 52 gr. The heat of red hot iron, to 156; wherefore according to his calculation, our natural heat is double the Summer's heat, and scalding water is only somewhat above three times hotter than our skin; and lastly, the heat of red hot Iron is almost ten times greater than the heat of our Skin; yet there are no symptoms in a Fever so different, as these which are produced by the heat of our Skin, and that of red-hot Iron, tho they only differ in degree. But not to insist further upon this use, may conclude that the true mark of letting Blood, or evacuating in Fevers,

is more truely regulated by these ways, I have now hinted, which are truly the *Strength* of the Patient, we are all puzzled so much about, yet never otherwise to be known; and I hope I have explained them too as fully, as my time and subject, and my resolution to avoid incroaching too far upon the true doctrine of Pulses and Phlebotomy will allow: and therefore I shall proceed to the Cure of our sicknesses this year, which is the main design of this work.

Observation I.

The first, then, I was called to this year, was a *Dutch Captain, Commander of the Amsterdam*, upon the fourth of *March*, who had lain ill three or four days of a continu'd Fever; the pains in the head, back and other parts that begin these Fevers were vanish'd, his Pulse beat very high and frequent, his thirst was very great, he watch'd most part of the night, and was now and then delirious. He had taken all that time nothing but a sort of a disagreeable

greeable, immiscible mixture of *oc.*
canc. *sang.* *Drac.* *camphor.* *sperm.* *cet.*
ant. *Diaph.* all jumbled together with
 some White Wine; some funk, some
 swam a top, and the Wine was left
 clear in the middle. His ordinary
 drink was *Rhenish Wine*, he was
 not let blood, neither vomited, nor
 so much as had a *Clyster*, tho he had
 not gone to stool during all that
 time. Seeing him, then, in these
 circumstances, I order'd him imme-
 diately to be let blood, to the quan-
 tity of ten ounces, and next day to
 take this vomit, then to begin the
Testaceous powde s.

R *Fin.* *emeti.* $\frac{3}{2}$ *j.* *oxym.* *scyllit.* $\frac{3}{2}$ *vj.*
aq. *theriacal.* $\frac{3}{2}$ *B* *M.* *ac capiat cras mane*
cum regimine.

R *oc.* $\frac{6}{9}$. *ppr.* $\frac{3}{2}$ *j.* *pulver.* *rad.* *serpent.*
Virginian. *sal.* *absynth.* *an* $\frac{3}{2}$ *B.* *M.* *ac*
divid. *in ix part.* *aq.* *Quarum unam ca-*
piat ter in die.

R *Tamarind.* *optim.* $\frac{3}{2}$ *B.* *hord.* *muudat.*
M. $\frac{1}{2}$ *B.* *boq.* *in s.* *q.* *aq.* *font* *ad hord.* *cre-*
pituram, *Colatur.* $\frac{3}{2}$ *vi.* *calid.* *affund.* *fol.*
senn. *virent.* $\frac{3}{2}$ *B.* *cin.* *acerr.* *Crem.* *Tartar.*
an gr. $\frac{12}{10}$. *Stent per noct.* *in infus.* *ac*
mane colatur. *add.* *syr.* *de spin.* *cerv.* $\frac{3}{2}$ *j.*
M. *f.* *potio quam capiat die quarto con-*

*sumptis pulveribus. Potus sic decoctum
hordei cum aceto probe acidulatum.*

These are the Medicins I prescrib'd him, but his Surgeon knowing all the Medicins and their quantities, but not one word of *Latin*, I was forced to leave him directions in *Dutch* by the help of one of the Lieutenants, who spoke very good *Latin*, and so I left him, with a design to see him by that time he had taken all those Medicins ; but the weather was so very stormy for 5 days, that no Boats could go off from a Ship. On the tenth, the Sea not being so great, they sent their Boat for me, and when I came aboard, I found he had not taken one half of his powders ; he had taken no vomit, and but one half of his purging potion, which wrought twice, and his drink was still Wine. His Pulse was great, and very frequent, he was very delirious, and had a violent thirst. I desir'd he might continue the powders prescrib'd before, and the drink, of which he should not only drink as often as he call'd for it, but should be remembred to drink of it : and if he did not go to stool once or twice a day,

day, to have a Clyster. Besides, I order'd strong blistering Plaisters to be apply'd; one to the nape of his Neck, and one behind each Ear, to be removed next morning, applying to the sore part the simple Melilot Plaister: before I left the Ship, I saw the Surgeon mix the Plaister, but when he spread it upon the Leather, 'twas not bigger than a Filberd nut, so I shap'd the Leather and spread him large Plaisters, leaving him to apply them, and intended next day to see the sick person, but it blew so very hard, that I had not opportunity to see him, till at our return to the *Downs*, it proving easie weather, I went on board that Ship, and tho it was least three days since I was there before, the Plaisters were not remov'd: the two behind his ears had risen very well, but the largest that was to be apply'd to the nape of his Neck, being laid among the hair, the skin lookt scalded, but had never risen. He had not even then taken his Medicins as directed, yet his pulse was slower and great enough, and he was not quite so delirious. I desir'd the Surgeon

geon to be more careful about the use of the former Medicins, to shave his Neck, and to apply there a great and strong blistering Plaister, and so took leave ; but after we came into the *Downs*, we had again very blowing weather, and the first news I had of my Patient was, that he was dead ; which was not so surprizing to me , as that he had lived so long, with such management.

Observation II.

.... Robie, being about fifteen years of age was taken ill, on board the *Edgar*, on the 27th of *April* last, with a pain in his head, back, and loins, a coldness, sudden weakness, a slow pulse, and want of appetite ; all which kept him three days, then he was hotter, had a quick pulse, a great drought, and could not sleep.

He was let ten ounces of blood next day, and the morning after he took three grains of *Tartarum emeticum*, which made him vomit about a quarter of an hour after he took it ; and being well ply'd with thin water-gruel between the times of his vomiting

miting, he vomited four times and had one stool, and was much easier that day. He had no paregorick, which too commonly is made the constant attendant of a vomit, or purge, because of the recommendation of some of the best Physicians; but I not only give none my self in the Fevers, of which I write, but must ev'n desire every body to abstain from that practice, who would not surrender the management of his Patient to the hurry of an impetuous blood, and a deprav'd delirium.

On the thirtieth he began to take the following powders.

Roc. 69. ppi. 5ij. gal. prunel. 3ij. sal. tartar. 3ij. M. ac divid. in ix. part. aq. Capiat unam ter in die, donec consumantur integræ doses novem.

His ordinary drink for the time was Barley Decoction sharpen'd with Vinegar, which I think better than either spirit of Vitriol or oyl of Sulphur *per. camp.*

By these his blood was kept very moderate, he had a stool every day, and on the first of *May* at night he slept a little: on the third in the morning, he took the following laxative.

R. Decoct. senn. Gereon. 3*iv.* syr. rosar. solutiv. 3*lb.* aq. Cinam. hordeat. 3*i.* M. ac capiat mane cum regime.

It purg'd him six times, and abated his thirst, and other feverish symptoms ; he slept easily that night, and next day awakening very hungry, I allowed him some water gruel. On the fifth and sixth in the morning, he had six ounces of the bittet draught without the purgatives, and recovered every day, till eating a hearty dinner of salt beef, he fell into an Ague, for which he took another vomit on the tenth of *May*, and then the following electuary.

R. Cons. ros. rub. 3*vi.* pulver. Quinquin. subtiliss. pulverat. 3*lb.* Theriac. Andromach. 3*ij.* Syr. cuiusvis gratt q. s. selectuar. quod consumat in intervallo paroxysmi.

The Fit not returning three days after, as it would, otherwise, have done, he only liv'd more cautiously and recover'd his health.

Observation III.

Laurence Donthey, a Marine Soldier, about twenty three years of age, com-

complain'd of a violent pain in his head, and back, a pain in his bones, and want of appetite : he was costive and very weak ; in a day or two his Pulse became frequent, he had a great drought, his tongue was very white and chinkie ; he could not sleep, and was delirious.

On the 11th of April he was let blood to the quantity of twelve ounces, and that evening had a suppository, which gave him two stools : on the 12th he took 5 grains of Emetick Tartar, and drinking Water-gruel, as in that case, he vomited six times, and had three stools : he took the preceding testaceous Powders for threee days, and drank Barley decoction acidulated as before, the whole time ; and on the 16th took this Purge.

R. pulv. rad. jalapp. Eli. Crem. Tartar. Eli. M. ac capiat multo mane cum regimine.

He had eight stools with this, and was very easy ; in a day or two he began to crawl about upon Deck, an hour or two in the warmest time of the day ; but, coming up a little too soon, he catch'd cold and relapsed on the 14th, and was obliged to go over

the former course, as near as his weaker body would allow; but on the 27th he turn'd very delirious, and had a very quick Pulse; he could not sleep and had an unsatiable drought. I allowed him as much of the Barley-decoction as he would drink, and ordered his Mess mate who attended him, to give it him unaskt, if it was a great while before he askt it. On the 28th in the evening, I caused a large and strong Blister to be laid upon the nape of his Neck and downwards, which rose very well, and was removed, applying a Plaister of Melilot to the part next day; he was mightily relieved by it, his Delirium abated, and his Pulse was not so frequent, but still he could not sleep, which puzzled me extremely, finding the ill consequences of Opium, or Opiats, the Medicins which Physicians depend on for the removal of this symptom; and therefore reflecting upon the Theory of this symptom, as I demonstrated it in the first part of my Book of Sea Sickneses for 1695, I could not think of any thing that would be so reasonable an indication from that Theory, as the applying of

a double Linnen Cloth dipt in Oxy-crat round his head, which I ordered to be done with so great success, that he slept almost all that night, and was mightily refresh't. I ordered his blister'd Neck to be kept as long running, as possible ; and to drink the *Decoctum amarum alterans* for four days, and on the fifth to add the Purgatives that he might have four or five stools, which being done, he recovered without any further trouble.

Observation IV.

Francis Marpole, aged twenty six years, whose natural pulse beats about sixty in one minute, was taken ill, on board the *Edgar*, April the 29th, of a pain in his head, and bones ; he was weak, had no appetite to his victuals ; his pulse beat but 45 in a minute, and he was very cold ; The next day after, he was let blood, his pulse was more frequent, and even exceeded its natural number ; he was very hot, and restless, had a great drought, and could not sleep.

On the 30th he was let blood in his right arm to the quantity of ten ounces,

ounces, and next day took 5 grains of the vomiting Tartar; and being treated as people ordinarily are, after they have taken a vomit, it wrought six times, and gave him seven stools. Next day he began the following powder.

*R. oc. 69 ppt. 3l. pulv. fl. chamom.
Dij. sal. prunel. 3ij. M. ac f. dos. ix. ut
capiat unam ter in die.*

His ordinary drink, all the time he was taking these powders, was Barly decoction sharpened with Vinegar, of which he drank as much and as often as he pleased. On the 4th of May he took this purge.

*R. pulv. Cornachin. 3l. tartar. vitriolo
gr. vii. M. ac capiat mane cum regi-
mine.*

This purg'd him seven times, and he was very easy thereafter. Only I must tell you, that all the time he was taking the powders he was restless, and did not sleep in the night, till by applying the Oxycrate, he was very quiet, and recovered without any other help than drinking half a pint of the altering bitter decoction every morning, for four mornings.

Observation V.

John Kock, a Man of three or four and twenty years of Age, complain'd on May 8th, of a giddiness in his head, a coldness, sudden weakness, and want of appetite ; his pulse was low and depress'd, yet, in a day or two after, it grew very frequent and strong ; he was very hot, had a great drought, and could not sleep.

'Tis plain from this description, that this Man was taken ill of a Fever, the symptoms of which I have already resolv'd and demonstrated ; yet in this case there being an unusual symptom, not yet accounted for, I cannot omit explaining it, however hard it may be, and maintain my design of plainness, which I have hitherto endeavoured. 'Tis known that those who are giddy or vertiginous, have such a sensation, as if every thing they see were turning round, however fixt and immoveable it be ; and truly this Phænomenon, tho' it may often happen in Fevers, yet either as a symptom of them, or as it is an essential Disease, has not too often had the

the good fortune to be sufficiently explain'd ; and if I except two or three, I may venture to say, that among so many thousand Authors who have written Medicinal Treatises there is not one that has spoken common sense upon this subject ; we may hear what a late learned Author, who is thought to speak the fullest and most satisfactorily, says ; that the immediate subject of this disease are the animal spirits, the more mediate those parts of the Brain, where imagination and common sense reside, and from whence the nearest way is into the Nervous kind, which are the callous and strious Bodies ; for in these parts they love to range and divert themselves as in a spacious field, and pass thro all the pores and thickest passages of the Marrow, with full force like a ray of light : hence it is that, while they glide along in the same Line, from the utmost borders of the Callous Body towards its middle part, they represent pleasant appearances and imaginations ; and whilst they flow, in another line, (perhaps thro other passages, from the middle of the Callous Body into the gyri of the Brain) they transfer thither the marks of Notions to be laid up for our future remembrance ; and, again,

gain, whilst they pass into the Strious Bodies, and the beginning of the Nerves, they actuate all the moving parts, and carry to them, upon occasions, the instincts of the motions they are to perform

But in the Vertigo these equal emanations of the Spirits seem to be intercepted, and variously perverted in different places, because some quantities of the Spirits are obscured, others are determined into other ways, and turned to and fro in so many Vortices one over another. Wherefore confused phantasms, wandering, and &c.

Here is a most poetical flash of a description, but how true, every one must see, that will give himself the trouble to remember the Anatomy of the Brain, and since its make will not at all allow of such a roving and sporting expansion, or so melancholy a circumgyration or turning round, we must seek its cause some where else, and yet this sense is not afforded us from the object it self, which we suppose to be, and often is immoveable, and therefore, since this sense is not caused by a turning round of the Animal Spirits, nor by the object that is thought to turn round, it can be no where else than in the

Opick

Optick nerve, the Eye it self, or something that goes to its construction. And first, it is evident that any object will seem to turn round, if the images that come from it fall successively upon different parts of the *retina*, going, *viz.* from the left, while the object is not really moved, and the images that come from it represent always the same distance; I say that object will seem to be turned round from the left to the right; for the images have a contrary posture in the *retina*, yet this may be done while the motion is only in the Eye, the object remaining unmov'd; for whether the object be moved while the Eye is quiet, or the object be quiet while the Eye is moved, the rays that come from the object, will not fall upon the same part of the bottom of the Eye; and therefore since we judge of the change of place where the object exists, by the change of place upon which the object is describ'd, 'tis plain that the object which has no motion will seem to move, and may be thought to turn round to the Eyes that are moved. Moreover, the object and Eye may be both unmov'd;

mov'd ; for if the optick nerve be only moved, the rays will not always fall upon it in the same situation ; and therefore since a direct and oblique falling do not affect the Nerves alike, but excite different sorts of motions ; then, the object that is quiet will seem to have chang'd its place, when only the optick nerve is mov'd, the representation of the place where it was being changed. And therefore 'tis evident that any thing that can move the *Eye, Optick nerve, or Retina* may cause this *Giddiness*, tho the object be not moved. Now there are a thousand things that may produce this effect, but nothing can more readily press upon the Brain than the distended arteries that are next the optick nerve ; and since we have seen how the fulness of all the vessels is occasioned by an interruption of perspiration, the cause of our Fevers ; there can be no further doubt, but that this fulness may occasion the *Retina's* being remov'd from its place, together with the optick nerve, so that it cannot receive the rays from the objects at the same part of the bottom of the *Eye* ; and consequently while

while the Images change their place in the *Retina*, the objects are represented to our mind, as if they were constantly moved. This being premis'd.

He was let ten ounces of Blood on the 9th, and on the tenth, he had five grains of *Tartarum Emeticum*, which made him vomit half an hour after he took it. He drunk large draughts of thin water-gruel after every time he vomited till it had done working; which it did very well and made him go twice to stool; next day he began the testaceous powders, and on the fourteenth he had the following purge.

R. pulv. rad. jalapp. Di. resin. jalapp. gr. vii. Crem. Tart. gr. xv. M. ac capiat cum regimine.

It purged him eight times, and he found himself very easie; but since he had no inclination to sleep, I caus'd a doubled linnen wet in vinegar and water to be laid round his head, by which he slept, and awak'd very much refresh'd on the sixteenth.

All this time he drunk water-gruel sharpned with vinegar; and, after his Fever was gone off, the *decoctum amarum*

marum every morning for four days, and recover'd a pace, 'till, I can't tell by what accident, he died apoplectical, and very suddenly.

Observation VI.

Edward Powis, a man about twenty years of age, and never at Sea before this Summer, was taken ill on board the *Eager*, the twelfth of *May*, of a Coldneis, want of Strength, and appetite for his victuals, his pulse was low and depress'd, he complain'd of violent pains in his head, back, and bones: In a day or two his pains went off, his pulse was high, he was very hot and had a great drought.

On the 13th he was let twelve ounces of blood, and next day took four grains of emetick Tartar, and vomited 6 times, and went thrice to stool. I always use to give them vomics in the beginning, for they mitigate all the Symptoms through the whole progress of the sickness, and the Patients are more easily managed: on the fifteenth he began to take these powders.

Re.

R. oc. 69 ppt. 3j. sal. absynth. pulv. fl. chamom. an. 3ij. rad. serpentar. virginian. pulverat. 3lb. M. f. pulv. divid. in tres p. a. Capiat omnes die crastino tribus vicibus.

The day after, he drunk this purgative.

R. tamarind. 3lb. bord. mund. M. b. Coq. ad bord. crepitur. in s. q. ag. font. Colatur. 3iv. affund. fol. senn. 3lb. semin. anis. contus. 3lb. crem. tartar. 3i. mane. ant per noctem in infusione, maneque li- quori colato add. syr. de rham. 3i. M. ac capiat cum regimine,

This purg'd him eight times, and having applied the Linnen dipt in Oxycrat, he slept all night, and recover'd daily. His Drink at the time of his sickness was as much of the Barley Decoction sharpened with Vinegar as he would ; and half a pint of the *decoctum amarum* for four days after his Fever was gone off ; after which he began to recover.

Observation VII.

Thomas Poste, being about 26 years of age, was taken ill, on board the *Edgar*, where he was the Captain's Cook, of a pain in his head, and over

ever all his body as if he had been beaten, his pulse was depressed, he was costive, and had no stomach for his Viscera; in a day or two his pains left him, he grew very hot, he had an insatiable drought, and could not sleep.

On the 6th of May he was let 12 ounces of blood, and in the evening had a Clyster which gave him two stools; next day he took the *tartarum emeticum* which vomited him very well, and made him go to stool; so that on the eighth he began the use of these powders.

R. oc. cancer. ppt. 3ij. pulv. fl. chamom. 3j. sal. prunel. 3S. M. ac divid. in ix partes aequales, ac capiat dosin unam ter in die.

He took all these Powders, and then this Purge.

R. pulv. rad. jalap. 3S. tartar. vitriolat. gr. viii. M. ac capiat cum regimine.

It purged him six or seven times, and he was pretty easie that evening, and the most of the next day, till on the 12th in the evening he began to be delirious, and his pulse beat very quick; so I order'd a large Blister to be

be laid to the nape of his neck, and one behind each ear, and to remove them next morning, dressing the blistered parts with the Melilot Plaster. The moraing comes, but the Blisters had not risen ; I was told of this in the afternoon, and when I went to see him his sight was dim, he could hardly speak, and lookt almost like one who is apoplectical : I caus'd 6 ounces of blood to be taken out of his jugular vein, for the reasons I will give in the case of an Apoplexy that happen'd to a Sailer this Summer, and order'd him imediately to begin the following powder.

*R. Rad. serpentar. Virginian. pulverat.
fl. chamom. sal. absynth. an 3*fl.* an:imon.
diaphoret. 3*lb.* M. ac divid. in tres part.
aq. quas consumat partitis vicibus, capi-
enda dosin quarta quaque hora ; in coch-
leari julap. seq. superbibendo alterum.*

*3*lb* aq. laet. alexiter. 3*ij.* decoct. hord.
3*lb* aq. epid. 3*lb.* syr. pœon. 3*ii.* M. f.
jul ap.*

I saw him at eight a clock that evening, and lie spoke easily enough, tho weakly ; and therefore I only order'd a piece of Linnen wet in Oxycrate to be laid round his head.

head. He slept all that night, and till ten a clock next day, when he awak'd, and desiring something to eat, I order'd him some Water-gruel with the juice of a Limon squeez'd into it, whereof he took half a dozen spoonfuls, and fell asleep ; he slept again till six in the evening, and had more Water-gruel prepar'd as before, when he awak'd ; and thus he slept for almost two days, and recover'd very fast ; his ordinary drink, during his whole sickness, was Barley decoction sharpened with Vinegar ; and sometimes Water, Sugar, and the juice of Limons.

Since that time I ordered the Surgeon's Mate always to observe when their pulse began to grow low, whether their face was reder than ordinary, whether their eyes began to stare, or whether they complain'd of an illnes or heavines about their head ; which I conclude to be the symptoms of the blood's going slower thro the carotid arteries of the face, and brain ; and, in this case, I desir'd him always to open the jugular vein, and to let out 6, 8, or 10 ounces of blood, according to the urgency of the symptoms.

Obseru.

Observation VIII.

William Mayes, being about twenty years of age, May 29th, complain'd of a violent pain in his head and bones ; he was very cold, his pulse weak and depress'd, then he was hot, very restless, his pulse quick, had a violent drought, and his tongue was very white.

On the 30th he was let $\frac{3}{4}$ of blood, and next day took five gr. of tartar. emetic. which made him vomit six times, and go twice to stool ; he drank Water-gruel plentifully during the time of its working, and brought up with the nasty stuff several large Worms, some of which had flat heads, and some sharp. On the first of June he began the following powders.

R. oe. 69 ppt. ant testar. ovor. pulverat.
3li. sal. prunel. $\frac{3}{4}$ l. M. ac divid. in ix
part. aq. ut capiat unam ter in die in cockl.
decoct. hord.

After he had taken these powders for three days, he took this purge.

R. Pulver. Cornachin. 3*lb.* resin. jalapp.
gr. iii. Tartar. Vitriolat. gr. v. *M.* ac
apiat cras mane cum regimine.

This purg'd him six times and he was pretty easy that night, yet his Fever did not take leave of him; so we continu'd the testaceous powder prescrib'd before, and finding his pulse grow quicker towards the evening, and his face very red, I began to suspect that he was inclining to be delirious, and therefore I caused six ounces of blood to be taken out of his Jugular Vein; he was quieter all that night, and next day, and on the 7th I purg'd him again, whereby he voided a great abundance of the small Worms they call *Teretes*, and was very well. All the time of his Sick-ness he drunk as much as he pleased of the Barley-decoction sharpen'd with Vinegar; and half a pint of the decoctum amarum alterans when he began to recover, which prevented his falling into the *Melancholia Hypochondriaca*, as some are apt to do upon their Recovery, if we do not help them in their digestion.

Observation IX.

Thomas Tyes, a lusty Man, and never at Sea before, nor ever afflicted with sickness, was taken ill on the 5th of June with a pain in his bones, a heaviness and pain in his head, a sudden weakness, his pulse was deepest, and he had no appetite for victuals; but in a day or two he became extraordinary hot, his pulse was frequent and great, he had a great drought, he was delirious and could not sleep. On the 6th he was let 12 ounces of blood, and on the 7th took the *Tartaram Emeticum*, which wrought very well, drinking great draughts of thin Watergruel in the intervals of his vomiting; it purg'd him but once, and he was a great deal easier in all his pains. On the 8th he began to take this powder.

R. Oc. 69 pptorum, aut testar. ostreorum sine igne preparatarm 3ij. sal. prunel. 3iij. Crem. Tartar. 3ij. M. ac divid. in ix doses, quarum unam capiat ter in die in cochl. cuiusvis liquoris convenientis.

On the 9th he had a gentle Clyster, because he had not gone to stool since his vomiting ; and on the 10th in the morning, having been furiously delirious the night before, he was let 7 ounces of blood out of the *Saphena* of the Right Leg, which bled freely without being put into warm water, and that evening had the Oxycrat applied to his Temples and round his Head, and next day was to be purg'd if his Delirium should go off ; he was easier that night, but being still light-headed, I caused 6 ounces of blood to be taken out of the Jugular Vein on the 11th, and the Oxycrat to be continu'd that night, which he past in quiet sleep, and awaking easy next morning took the following Purge.

Rx. Decoct. senn. Gereon. 3lv. syr. de spin. Cervin. 3l. M. ac capiat cum regi-
mine.

It purg'd him five times, and he had a good nights rest thereafter ; next day he awak'd very hungry, and had some Water-gruel.

He drunk all the time of his Sickness a great deal of Barley Decoction sharptned with Vinegar , and sometimes some *Sal Prunellæ*. dissolv'd in a Spoon, given him in a draught of the Decoction.

Observation X.

Thomas Hoskins, on the 11th of June, was taken ill of a violent pain in his head, and such a pain in his bones as when one is beaten, he was cold and weak of a sudden, he was costive, and had no appetite for victuals ; in a day or two more the pains went off, except a little in his head ; he became very warm, his pulse was quick, he had a great drought, his tongue was very white and chinkie, he could not sleep.

On the 12th he was let 12 ounces of blood, and vomited a great deal while he was bleeding, tho he had not taken any thing, and did not vomit before, next day he had six grains of vomitive Tartar, which wrought seven times, and gave him three stools ; he drunk a great deal of water-gruel in the intervals of the vomiting,

miting, and went sick to his Hammock, but a little after was very quiet, and slept about half an hour. On the 14th he began the Powder, which is made thus.

R. testar. ostreor. in subtiliss. pulver. super porphyrit. redact. 3ij. sal. prunel. 3i. crem. Tartar. 3B. M. ac f. doses ix. sumat unam ter in die.

On the 16th, being a little light-headed, and his pulse very high, he was let 8 ounces of blood out of his Jugular Vein, and had the Linnen wet in Oxycrat laid round his Head, by which he slept most part of the night, and next morning drank this potion.

R. Tamarind. . bord. integ. M. B.
Coq. l. a. in f. q. aq. fontan. ad bord. crepitur. Colatur. 3vi. caide affund. fol. sen. 3B. semin. foenic. dulc. contus. 3B. Crem. Tartar. 3i. Maneant per noctem in infus. ac Colatur & mane per express. fact & add. syr. de spin. Cerv. 3B. M. ac bibat cum regimine.

This purg'd him six times, and at night the Linnen wet as before was laid round his Head, and he had so good a night, that the outcry next morning was hunger, which was soon quench'd with a little thin Water-gruel. His drink all this time was Water gruel sharpned with Vinegar; he slept a great deal for a day or two, and recovered every day. 'Tis not without extraordinary difficulty that we are able to restrain them from eating Salt Beef even in the beginning, which they are so far from being able to digest, that no sooner do some, that will not be manag'd, eat a hearty belly full, but they immediately relapse, and are forc'd to go through the greatest part of this process a second time, with far greater danger than before.

Observation XI.

William Gray, a man about 33 years of age, whose natural pulse beats about sixty in a minute, complain'd of a most violent Head-ach, a pain in his Bones, his Pulse beat six and forty in a minute, he was costive, and became weak very suddenly ; as his pains went off, the warmth and heat encreas'd, his pulse was higher, that once when I felt it I reckon'd eighty strokes in one minute ; he was very dry, and could not sleep.

On the 27th of July he was let xiv ounces of Blood, and vomited very much while he was bleeding, which made him a great deal easier; as I have observ'd in many others: next day he had five grains of *Tartar. Emetic.* which, being well assisted with large draughts of thin Water gruel, gave him six vomits and one stool. On the 29th he began the testaceous powders, as I ordinarily prescribe them, and took them three days, the last two having a Clyster in the evening. On the 1st of July in the even-

ing he began to be delirious ; the Surgeons-mate bled him in the Fore-head, but with no great success ; for he was furiously delirious all that night, and his Mess-mates were forc'd to lash him in his Hammock ; next morning he took six ounces out of the *Saphena*, with no greater benefit, but at five in the evening he let him 8 ounces out of the Jugular, and in an hour after he fell asleep, and had a pretty good night. Next day he was purg'd with an easie Medicine ; all the time before the Purge he took he testaceons Powders, and drank Water-gruel frequently : in the evening after the Purge he drank some of the following Emulsion.

R. semin. iv. frigid. major. 3*i.* semin
papav. alb. 3*lj.* amiyd. dulc. *N.* xvi.
Contund. *s.* *a.* affundend. decoct. bord.
Ibij. *f.* emuls. cum sach. edulcorunda ; de
qua bibat haustum ad libitum.

He recovered very well, without that lingring weakness, that generally attends our men for want of convenient Victuals ; whereas if but their Burgoo

Burgoos were made more pleasant, by a small addition of Butter, it would prove very good and nourishing Victuals for them in the beginning, and would fit them in a short time for eating the Ships provisions without any injury. It is a great deal better than Rice, which I find makes them very Costive; and therefore I could heartily wish some consideration was taken about this matter.

Observation XII.

Thomas James, Captain Munden's Cook, in the *London*, was taken ill on the 23d of June of a pain in his Head and Bones, was weak of a sudden, he lost his appetite, his pulse was depress'd, and he was very costive; in a day or two, tho [he was very hot, he had a strong and quick pulse, was very restless, had a great drought, and was very delirious.

On the 24th he lost 12 ounces of Blood out of his right Arm, tho he be at least fifty years of age; and next day took four grains of *Tartarum Emetic.* which wrought very well, and gave him two stools; he

D 5 was

was pretty easie all the rest of that day, and had the testaceous powders, as I generally prescribe them in the beginning of Fevers, strictly observing that he had a stool every day. His ordinary drink was Water, Lime-juice, and Sugar; of which he had as much as he would drink: yet on the 28th in the evening he prov'd very delirious, and I caused him to be let vi. ounces of Blood out of the gular Vein, and then order'd a piece of Linnen doubled, and wet in Vinegar and Water to be apply'd round his Head; after which he slept pretty well that night; and next day took this purge.

R. decoct. Sen. Gereon. 3*iv.* Syrup rosar. solutiv. simpl. 3*ii.* M. ac Capiat crassane cum regimine.

This purg'd him four times with a great deal of ease, and he had a pretty good night after; but in the morning, being a very peevish sort of a man, and complaining of a very great weakness, I was alarm'd with his dying; which was a very great surprise to me, who thought of nothing less

less the evening before ; so down I went, and feeling his pulse run between the Radius and the Ulna, it was not to be felt without some art ; however, turning his wrist a litle round, the Artery lying more upon one of the Bones, was easier felt, as I have observ'd in my Oecon. of the Humane Body, speaking of pulses : It was very strong, and not at all frequent and therefore declaring all things to be in a good way, I order'd him the following powder.

R. ec. canc. ppt. 3ij. pulver. fl. chamom. pulver. rad. serpentaria Virginian. an gr. xv.
Mac f. dos estres. Capiat omnes eodem dis, sed vicibus partitus, in cochl. decoct. aord.

He had the wet Linnen apply'd afresh once more, by which he slept very well ; and only eating Watergruel for five days, he recover'd without further help.

I'm sure by repeating some things so very often, I must needs weary the more delicate Reader, as I confess I am my self ; but this is not entirely design'd for him ; and those that are to be bettered by repeated
in

instances, I hope will reap some advantage, and so I have sufficient reward for all my labour: and therefore I shall only trouble you, and let you know, I advertis'd all the Surgeons I came to talk with, about this observation in opening the Jugular ; which they have acknowledg'd to have practic'd often with the like success ; but there being one thing that happen'd to Mr *Chapman*, who is a careful and an expert Surgeon, easie to follow an advice when reasonably given : I say one thing very singular happen'd to him and me, in the case of a man who had been treated after the same way while I was on board the *London* ; yet in warmer weather he was very delirious ; Mr *Chapman* went to let him blood in the Jugular in the morning, but the Vein would not rise: he try'd to bleed him in the Arm, but with the like success ; he immedately sends for me, I felt his pulse, which was very depress'd, and beat not above 30 times in a minute, and while I look'd upon his failing senses, and dim eyes , and feeling it again, it beat but 27. Things being at such a pass, I order'd

two Cupping-glasses to be apply'd, with Scarification, which was done; but he scarify'd very deep before the blood appear'd; yet getting about six ounces out of the lower part of his Neck, the pulse immediately grew quicker; and in two hours after, he let him eight ounces of blood out of his Arm with a very easie Ligature; by which, and other things, as given before, he recovered. This is a very unusual accident, and not to be accounted for, but by a thorough understanding of the Doctrine of Apoplexies; and because I shall have an opportunity, as I said before, to speak a little to that subject, I shall content my self with referring you to that place; and conclude this Observation with a Letter I had sent me, about what I have written.

S I R,

I Most willingly account my having your company one whole Summer, and a great part of this, amongst the happy parts of my Life; when I see the most exact practice

I

I ever saw or read in my days ;
and all this mightily heightned by
your condescension in giving me
most solid rules and reasons for
giving and doing of things, upon
certain occasions. Any one that knows
what I have improv'd by this, must
needs envy me, and acknowledge with
my self, the misfortune I had to be
depriv'd of you, when we made
our Bilboa Voyage ; yet returning
now into England, I hope you ex-
cuse my taking the first opportuni-
ty to let you know, that tho' we
had an abundance of sick, we have
not buried one ; for which, next
to God Almighty, you are to be
thank'd : Yet I must tell you,
that tho' you advis'd me to let
blood in the Jugular, in more stu-
pid deliria, and in the Saphæna
when they were more furious,
which has done very well ; yet I
have open'd the Saphæna and the
Frontal in the case you advis'd me,
but with nothing of that success

as opening the Jugular, which has most surprizing effects. This I presume to tell you not only for your own thoughts, but as I hope and desire wou'd make us in the Fleet, and even others that look higher, happy in a Continuation of what you have begun: So I must beg you you'll do me Justice to the World in this; whom I would have know too, that I have all the obligations worth and esteem can enjoy, to be

Your Most Humble Servant.

S. S.

Notwithstanding of all this, and what I have often proved, I cannot be wanting in any thing may be of advantage to the Service, but acknowledge that tho' what I demonstrate about the Nature of Fevers, and that they are entirely owing to the fulness occasion'd by an interruption of perspiration, and that therefore he that would cure a Fever must

must either evacuate a quantity equal to the quantity of detain'd steams, or such a quantity that the secretions being better perform'd, there may, at length, a due quantity be evacuated ; yet the instruments we use in voiding this quantity by sweat, being so uncertain, that either not having the expected effect, they make the most healthy patient die the most furious and mad death, or ev'n when they prove effectual, yet by their warmth add a greater heat and velocity to the blood, than they help by their evacuation, which makes a very unsuccessful practice, and deterr'd me from having recourse to that way. But having, of late, fallen upon a medicin, that, in half a quarter of an hour, puts the patient into a large sweat, without any warmth, and judges his Fever, especially if he has the good fortune of a Cabin; I must relate two or three instances of about forty, in which I have us'd this medicin, and with the same success.

Observation XIII.

Joshua Manning was taken ill the latter end of July on board the *Dutchess*, of a pain in his head, & bones, and was very weak of a sudden ; his pulse was depress'd, he was costive and had no appetite.

On Friday 24th, Mr Birkly, who is a very expert and knowing Surgeon, let him twelve ounces of blood ; next morning he took 5 gr. of *Tartarum Emeticum*, which vomited him four times, and made him go twice to stool. That evening he took 3*fl* of Syrup of white Poppies ; and on Sunday the 26th the medicin, which made him sweat from eight in the morning till six in the evening, with so good success, that next day about noon he sat up in his Cabin, and in a day or two when I came on board, I found him walking upon the Deck.

Observation XIV.

Mr Noble, first Lieutenant of the same Ship, was taken ill after the same manner, and Mr Birkly, after he had let him blood, & given him a vomit, and the Syrup *de mecan* in the above-mentioned order, he gave him next morning the Medicin, which had so great success, that in the afternoon he found himself so well that he thought he might put on his Cloaths, and go upon Deck; which he did, but catching cold, he relaps'd; I happen'd to be there the day after his relapse, and finding him incline to be delirious, I caus'd a Blister to be apply'd to the nape of his Neck that evening, and next day ordered him to take the medicin a second time, which he did much to his advantage, and being more careful for a day or two, he recovered very well.

Observation XV.

Thomas Munden, a Kinsman of Captain Munden's, who commands the London, was taken ill, on Tuesday, July 28th at night, of a sickness in his Stomach, an exquisit p:in in his Head, his Bones, and all his Joints; his pulse was a great deal lower than naturally, and he had no desire to eat.

On Wednesday he was let blood; next day, had a Vomit, and the third, the Medicine; which produc'd a very good effect, to the satisfaction of us all. On Saturday he was very hungry, but I would allow him nothing but Water-gruel; and on Sunday he took Physick, and recover'd very fast every day.

At the same time one of Mr Chapman's Mates was ill, was treated after the same way, and recover'd as soon, tho not quite so well, being a little warmer by the heat of the Cock-pit where he lay; so mischievous is the least extraordinary warmth in Fevers, tho it has not hitherto been so well lookt into, but rather encourag'd.

And

And now, since I have given you these 4 instances of this easy way of Cure, I shall only add, that all the Experiments I have had occasion to make of this method, have prov'd equally successful, so well may a practice be mended; and therefore I will not tire your patience with more histories of *continu'd* Fevers, but keeping to the order of my last Book I proceed to these that are *intermitting*: In the mean time I must desire you to peruse with attention, the Theory in the first part, and the Indications in the second, of that last book, which are but the consequences of the former; for otherwise you cannot understand the design of the practice.

Observation XVI.

John Orran, was taken ill after dinner, on *May 2d*, of a coldness and trembling which lasted two hours, all which time his pulse was depress'd and weak; but afterwards he became a great deal hotter, his pulse was quick, he had a great drought, and the fit ended in a sweat that lasted 3 hours.

'Twas

Twas evident to me that it was a formed Ague, and because most Spring agues are Tertiaries, I suspected it to be so too; yet that we might not seem to torment him without being sick, we delay'd giving him any thing till he should have another fit; accordingly on *Monday* by nine in the morning his fit came violently upon him, and held him as before; and on *Wednesday* by five in the morning, he took 5 grains of *Tartarum Emeticum*, which vomited him ten times. I did not allow him to drink so large draughts of Water gruel, as I prescribe in continual Fevers; for the reasons I assign, when I speak of Agues in the 2d part of my Sea-sicknesses: However, with this severe fit he miss'd of his Ague; and next morning he took the following medicin.

Rx Decoct. amar. alterant. cum dupla quantitate radic. gentiaan. 3vij. Bibat cras mane; ac repetatur ad vij. alias vices.

After

After he had drank this four or five mornings, he began to recover his colour and flesh, which is always a certain sign of their recovering health.

Observation XVII.

Michael Sunderland, was taken the latter end of *April*, with a coldness and trembling after dinner, his Pulse was depress'd, he had a great desire to vomit, his Lips and Face were very pale, and he had no appetite for his viſtuals; in an hour or two after he became very warm, and was hot for more than an hour, his Pulse was very quick, and he sweat an hour more, which ended his fit.

On the first of *May*, in the morning, he took five grains of *Tartarum Emeticum*, which vomited him four times, and gave him two stools; about eleven in the forenoon his fit returned, but it was nothing so severe as his former; after he had sweat and all was over in pretty good order, he began to take the *Jesuits* powder in this form.

℞ Pulver. cortic. chin. chin. 3ij. conf.
rosar. rub. 3vj syr. fl. caryophill. q. s. ut
f. electuar. Cujus capiat magnitudinem
nucis moschatae majoris tertia quaque hora,
superbibendo vin. hispanic. aut Canaria.
poculum, after which his fit did not
return; yet to prevent a relapse,
I prescrib'd him the following Tin-
cture.

℞ rad. gentian. 3ij. helen. aristol. re-
tund. an 3lb. Zedoar. 3ij. summitat cent.
min. flor. chamom. an M. j. cortic. au-
rant. 3lb. baccar. Juniper. 3ij. Pptis. s.
a. affunde vin. hispanic. lb; j. ac postquam
fuerint per biduum in infusione, bibat
cochl. iv. bis in die.

Having drank this for some time,
he began to recover his colour,
which is always a certain sign that
the Patient is out of danger of a
relapse; yet he infus'd the medicins
a second time, and did very
well.

Observation XVIII.

Richard Osburn. was taken ill of a coldness after dinner, which was succeeded with a trembling, an inclination to vomit, his Pulse was very depress'd, and his Lips were of a perfect clay-colour; yet instead of death came a great warmth, his Pulse was quick, he had a great drought, and his heat was so sharp, that he was very restless, till a plentiful sweat succeeding, made him more temperate; this Fever return'd once in 24 hours.

When I saw him first, the fit, which lasted six hours was just gone off, and expecting the return next day about ten in the morning, I ordered him five grains of *Tartarum Emeticum*, to be taken by eight that moruing. which wrought very well, and had done its operation but a little before his fit came upon him; the cold fit was a great deal easier, and did not continue so long as before, and just as it was ending, he took 3ij. of *pulv. gasconic.* He fell asleep and awaking in a fine sweat,

sweat, he judg'd that fit to be ver
well; and immediately after the fit,
began to take the powder made into
an Electuary, as follows.

*Rx Pulver. quinquin. 3vj. cons. rosar.
rub. 3lb. theriac. Andromach. 3ij. syr. de
onecon q. s. ut f. electuar. molle; quod
consumat partitis dosibus ante paroxysmi
sequentis adventum.*

By the use of this he miss'd his fit;
yet to confirm his strength, he took
6 spoonfuls of the following Tin-
cture, till it was ended.

*Rx rad. gentian. belen. an 3j. summitat.
absynth. cent. min. fl. chamom. ac M. j.
semin. coriand. 3ij. cortic. aurant. 3lb.
baccar. juniper. 3ij. limatur. mnr. 3lb.
Tartdr. alb. crud. in pet. ligat. 3lj. in-
fund. per biduum in vin. hispanic. lb iiij.
dein bibat cochl. 3 bis in die.*

After he had drank this for some
days, his colour and flesh return'd,
he got an appetite for his victuals,
and recovered daily without a re-
lapse.

Observation XIX.

M—— Captain of his Majesty's Fireship —— was taken ill for a great while of a pain in his Heel, in the evening, so that sometimes he was so lame in the morning, that he could hardly walk till nine or ten of the clock.

In my first visit, I found he had a great may symptoms that happen to people in Agues, and for that reason, I was the apter to think it one, since I have seen twice before such strange personating of Agues, particularly in a Lady of Quality, Sir *Thomas Milington* and I was concern'd in, who had an Ague personated by the most violent hysterical fits, that ever were describ'd by any Author, but I forbear relating it, becauile it happened not at Sea. Yet whoever understands perfectly the Theory of *Agues*, and especially about their *Return*, will easily be perswaded, that there may be such obstructions in the smaller and less comprest vessels that may produce such effects, and these so supprest and discussed, that very way

way end one paroxysm and begin another: tho I must confess, that the diligent Doctor Sydenham was the first, who took any particular notice, and gave us a plain account of any such fact; tho he thought the reason was never to be assigned. This he does in his letter to the learned Doctor Brady, at present Kings professor in Cambridge. ' *Hic autem, says he, commenstrare libet, quod sub primis hujus constitutionis annos symptoma quoddam insigne Febris intermittentibus quandoque supervenerit.* Nempe earum paroxysmi non cum rigore & horrore, quas postea Febris excipit invadebant sed aeger ipsis plane symponatis tentabatur ac si *Ap plexia vera* esset, que tamen nihil aliud esset, utcunque hunc affectum, amularetur, quam ipsa Febris caput impetus, ut ex alijs signis, ita ex colore urinæ satis liquebat: quæ intermittentibus ut plurimum rubore saturato extat, qualis cernitur in urina eorum qui ictero laborant, et si non adeo intense rubet, & pariter sedimentum deponit pulverem laterum sere referens. *Hoc autem in casu, &c.*

' But I must now take notice that
 ' a very considerable symptom at-
 ' tended these intermitting Fevers ,
 ' about the beginning of this consti-
 ' tution. Their paroxysms made not
 ' their approach with a shaking and
 ' shivering, and then had the Fever
 ' following ; but the sick person was
 ' affected in that very way, as if he
 ' had been ill of a true *Apoplexy* ;
 ' which, nevertheless was nothing else
 ' but the Fever it self attacking his
 ' head. However , it imitated that
 ' disease, as was most evident by a
 ' great many signs, but more particu-
 ' larly by the colour of the Urine,
 ' which, in Agues, is commonly of
 ' a deep red, such as that is in those
 ' that are ill of the Jaundice, tho it be
 ' not quite so red, and likewise breaks
 ' into a sediment almost like Brickdust.
 ' But in this case, &c.

The great Doctor *Sydenham* is imi-
 tated in this by Doctor *Morton*, who
 endeavours to follow so exact a guide
 in writing observations of some dis-
 eases ; but whatever people may
 think of that way of writing, I think
 it is the hardest thing to perform
 well in the world, which makes the ob-

observations of *Platensis*, *Horstius*, and a great many more Authors, who have been mightily commended of so little real use. I say that Doctor, *Morton* does here pursue the hint from Doctor *Sydenham* at greater length about the 82 and 83 page of his *Pyraetolog*, and give us the pathognomical sign, the *Urinam bene tinctam, sedimento lateritio saturatam*, an Urine of a deep colour, studded with a sediment like Brickdust.

And therefore, by the conduct of Doctor *Sydenham*, for I had not read the other Author when such a symptome first appeared to me, and the reason I have already assigned. I believ'd in my former patients and in this, that he had an Ague possest by a fit of the Gout. During the paroxysm I endeavoured to allay the pain, but design'd to prevent a relapse by the Jesuits powder, which succeeded very well given this way.

On the 8th of *May* he had a fit in the evening; next day, he dined by eleven in the forenoon, and at five took this vomit.

(78)

*Rx Vin. emetic. 3i. Oxy. scyllit. 3fl. aq.
theriacal. 3ij. M. ac exhibeatur cum
regimine.*

This made him vomit six times, and gave him one stool, and having his Fit in the evening, he began the Powder in the night ; it was made up into an Electuary this way.

*Rx cons. ros. rub. 3j. pulv. chin. chin.
3vi. syr. de succ. limon. iq. s. f. electuar.
molle, quod consumat antereditum sequen-
tis paroxysmi.*

He took it accordingly, and prevented the Fit ; he had the Tincture too, for the design I use to give it, and suffer'd no relapse.

Observation XX.

The order I proposed in the beginning, leads me next to the other part of our stationary sicknesses the Loose-nesses and Scurveys ; and I shall give you a few instances of a great many that happen'd, as clearly and shortly as is possible.

Peter

Peter Pierce having returned from the *Streights*, was troubled with a violent Flux: he was put ashore at *Deal*, and *Gospert*, but returning without any Cure, I saw him on the 9th of June, on board the *Queen*, where Mr. *French*, a very careful Man, is Surgeon; he went to stool some 14 times a day, and was very uneasy in the night, he had no appetite for his *Viuals*, and was in a very weak condition: next day he took the following Purge.

Rx *Pulv. rad. Rhubarb. Di. cinam. pulverat. 3lb. M. ac capiat cum regi- mine.*

He did not void much more than usually, with this, and in the evening he took the powder I prescribe for this disease, made into a *Bolus*, with *conserve of red Roses*, by which he recovered without taking any more remedies.

(80)

Observation XXI.

John Hall at the same time came from the *Streights* with the sickness upon him, and had the fate of the former ; he had tryed every thing that is prescribed by Physicians in this case, but to no purpose ; at last taking the purgative as before, and then the Bolus, he did not go to stool for two days, and once every day thereafter ; and recovered his health.

Observation XXII.

At the same time I saw Edward Mc Kaffrey, who had return'd from the *Streights* in that Ship, and was put ashore for his illness, but to no purpose ; he took this purge on the 10th of June.

*Rx Pulver. radic. jalap. cortic. cinam.
fructil. pulverat. an 3ij. M. ac capiat eum
regimine.*

He

He had ten stools that day, and in the evening took the powder made up with a little of the Conserve of pale Roses, and Syrup of White Poppies into a Bolus, it kept him from going to stool that night, but he having three or four stools next day, and being a little grip'd he had a Clyster that day, and in the evening the Powder made up with Conserve of Red Roses, and recover'd perfectly.

Observation XXIII.

Alexander Ferguson, one about sixteen or eighteen years of Age, returned from the Streights with the rest, but went to stool sometimes twenty times a day, he voided little but blood, and a skinny sort of substance, which he would be apt to take for the coats of the guts.

Es

He

He was let 5 ounces of blood in the arm, that evening, for revulsion.

Now the reasonableness of this practice will appear from what I shall write about the cure of an Apoplexy; and the success of such a revulsion may be seen in Authors: in particular, *Amatus Lusitanus* says, *Ad virum illum, qui Dy[se]nteriam diuturnam, & forte triginta dierum, ingenti & febre patiebatur, ac post multa & varia adbibita remedia, imbecillus & gracilis est factus, perseverante etiam fluxu ventris multo cum sanguine; Medicus cordatus ingressus est, qui sanguinem ex basilica dextri brachij extraxit, sed quanto juvamine, audite. Ilico, mirum dictu! sanguis cohibus fuit. perseverante adhuc fluxu ventris Cæteturum saccharo ad aliquot dies, & nonnullis ingestis Clysteribus, ac topicis astringentibus remediis adhibitis; Alvus, in totum, restricta est.*

Rx Rad. Rhab. elect. subtiliss. pulverat.
 Dj. cinam. gr. xv. balsam. Capyi. gut. j.
 M. ac capiat cum regimine.

This purg'd him easily, and that evening he took the Medicin in this form.

Rx Pulver. contra Diarrhaeas Dj. Opo-
 bals. gut. viij. cons. ros. rub. q. s. ut f.
 bolus quem capiat hora somni.

He slept easily, and was not disturb'd that night, he had no stool next day ; and but one the day after, and was restored to his health.

Observation XXIV.

Hearing that there were some persons troubl'd with a looseness, on board the *Sandwich*, Commanded by Captain *Mees* ; I went on board for that purpose on the 23d of July, and saw *Robert Alvin*, *Edward Huggin*, *Charles Child*, *Thomas Starre*, and *Robert Craig*, who were very much weaken'd by most troublesom loosenesses that had kept them for three months,

months, in spight of all that the Physitians, or any body else could give them.

On the 24:th they were all purg'd with the powder of Rhubarb and Cinnamon, which had all the success imaginable; and in the evening going to bed they took the bolus, which put an end to their troublesom disease, without any inconvenience whatsoever.

Observation XXV.

Henry Lloyd, having been troubled with this distemper so long, that for a fortnight he came not out of his Hammock, but as he was carried in mens arms, and was so weak that he could not turn himself, had this Clyster in the afternoon.

Rx Decoct. commun. pro Clyster. (in quo coct. sint fl. chamomil. Melilot. an. M. B. semin. anis. contus. Eli. baccar. juniper. 3ii) 3vij. terebinth. in vitel. ovi solut. 3j. M. f. enema injiciendum hora quinta pomeridiana.

He could not keep it above half an hour, and when he voided it, it brought along with it a great deal of slimy stuff; and in the evening he took the medicin, as I used to prescribe it; he drunk for three or four days after the *Decoctum album*, and recovered without any relapse. After he had been ten days free from his flux, and began to crawl about again, he was sent ashore to recover strength, which he did in a very short time, blessed be God.

Observation XXVI.

— — — Servant to Lieutenant Collonel *Lutherel*, was taken ill on board the *Duchess*, in the beginning of *August*. When I saw him he had had six stools in one hour that morning; he immediately had the purge, and in the evening the *Bolus*, and recovered.

I will not trouble you with more instances, since these are sufficient to demonstrate how powerful that medicin

dicin is, and of how great use it may be in those Countries where this disease is epidemical; and destroys so many thousands, as it has done in all the Armies and Navies in *Europe*, since the beginning of the present war.

In the next place I proceed to the Cure of Scurveys, which, I bless God for it, are not so frequent as people imagin, and these that are truly Scorbatical, recover better in three days ashore, than in three thousand on board, tho very many recovering imperfectly of their Fevers and continuing weak, are always said to have the Scurvey, and this might even be pretended with a little more care, and therefore I will say no more on this subject; and the mistaken Scurvy, or Melancholia Hypochondriaca shall have its place among our interfering Diseases, which I now begin to account for.

Observation XXVII.

John Davis, was taken suddenly with a loss of his Speech, he fell down as if he had been thunder-struck;

struck, and fast asleep, without feeling or any motion, except Respiration, the motion of the Heart, and consequently that of the Pulse: yet, the Respiration and Pulse were so very small, that the sick person seem'd to be dead for a great many hours, his breathing was high, as when a man snores, and he foam'd a little at the mouth.

'Tis certain, that this is a Fit of an Apoplexy, a Disease not necessarily occasion'd by our way of living at Sea, and therefore not to be minutely and particularly accounted for, in this place; yet to make the method of cure to be better understood, 'twill be necessary to say something, in the general, of its production: and therefore, let us only consider what we observe upon this and the like occasions; we have here a sudden and universal deprivation of sense and motion, except those already mentioned in the foregoing History; so that whatsoever is capable of producing this universal and sudden Deprivation, is the immediate cause of this Disease. Again, let us remember that when I prov'd in my *OEcon.*

Anim.

Anim. that there was a liquor propell'd through the Nerves which we might call Animal Spirits, I did it upon an experiment of a part's losing its sense and motion by making a ligature upon the nerve with which that part is provided ; and now since we see that a member, or a particular muscle may lose their sense and motion by making ligatures upon their Nerves ; if so many ligatures or something that produces the same effect, be suppos'd to affect every Nerve and ail its parts, or all the Nerves in their Original, which may be more easily done, 'twill not be difficult to apprehend this universal and sudden deprivation of sense and motion, which is requir'd.

* Now any thing that may depress the small and tender Nerves in their rise, in the Brain, and *Medulla oblongata*, will hinder this derivation of animal spirits thro the Nerves and cause an Apoplexy ; whether the sides of the Arteries be stuff'd with too much blood (thro its viscosity, too great quantity, or its being too much rarefied) bending outward with

with greater force than these Nerves have resistance ; or whether these Nerves are thus deprst, by any of the vessels of the Brain being broken, and their liquors driven thro all the brain by the force that propell'd those liquors ; extraneous bodies bred in the brain, a depression of the skull, which compresses these vessels, and the whole substance of the brain ; all which may produce the required effect.

Now if the compression be of such a kind that either few animal spirits are derived, or none at all ; if the last, the consequence is *death*, because of the absolute and perfect want of those spirits that distribute sense over all the body, and motion to all its vessels and liquors : but when these spirits are conveyed in a very small quantity, they go with no unequal force into all the muscles, and consequently they effect equally, as to our observation, the whole muscles ; and because the muscles of the whole body are counterpoised by their Antagonistical Muscles, except the Heart which has no Antagonistical Muscle,

Muscle, and they being equally affected with this small quantity of animal spirits, their powers will be equal, and all detain'd in *equilibrio*, except the Heart whose faint motion, from so few spirits, does continue; and the pulse too, which depends upon the motion of the Heart. Now from this Theory 'twere easy to establish the Cure, according to the different ways of the production of this Disease; as that an Apoplexy from extravasated liquors or extraneous bodies bred in the brain is incurable, because we know of no way to bring back these liquors into their vessels, or to destroy these growing and compressing bodies in the brain: and that that from a depression of the skull requires the raising of the skull, and a practice according to the hurt the brain has receiv'd by this depression. But the Cure of that which is occasioned by the stagnating of the blood in the Arteries of the Brain, and *Medulla Oblongata*, can only be perform'd by such means as may put this blood

blood into motion, and empty those vessels from the extraordinary quantities; upon which views, straight come into our mind all sorts of Evacuations, as *Bleeding*, *Vomiting*, *Purges*, *Chasters*, *Sweating Medicins*, &c. then such Medicins as cause *pain*, which occasions the vessels and muscles to be more violently contracted, that so the stussen liquors may be the more easily cast off. Now, tho Authors do mightily depend upon such evacuating Medicins for curing the paroxysm of an Apoplexy, yet it were easy to demonstrate the unsuccessfullness of that practise, by proving how such Medicins cannot affect the body in this circumstance, and therefore can afford but a very weak help; but this not being my design, I will only Put 'em in mind of an instance of daily experience, and defer other Arguments to a more proper occasion; and that is, if we give a very strong Vomit to any one in a Quartan Ague when the cold fit is begun, we find it never has its

its effect till the cold fit, which may last three or four hours, is over; the vomitive parts of any medicin not being capable to affect the Blood or animal Spirits, in this viscid state of the Blood, or when it has a slower motion in the cold fit of an Ague, so as to produce their natural and constant effect; yet so soon as that is over, we find that, in a reasonable time, this small quantity of a medicin that has been in reserve, for some hours, in a place, that uses to digest our most solid food, and transmit its healthful juices into the blood for our sustenance in less time, at length, and then only begins to move us; and since this is the constant fate of vomits taken in such circumstances, it will be very plain to those that can see into the reason of this obvious observation, what we are to expect from this medicin in the fit of an Apoplexy, where all feeling and sense seem to be at a final period, the equable and exact motion of our Liquors interrupted, the Pitcher broken at the Fountain, and the spring and origin of motion taken off:

And

And if all this happens to vomits, the medicins, that of all others have the most violent effects upon us, what must the weaker helps of the other medicins be thought to perform? just nothing; and if we can cram them into him, 'tis only to plague him afrer he has recovered without our help. Now, if this is all that internal medicins can do, even when we are to use violerce upon our Patients to make 'em receive them; we must certainly depend upon external operations, for any service we can expect to do, as anointings, which can do least, smelling at things that may affect our Senses and create pain, which may do more; but if we can hinder a greater afflux of Blood to that which already stagnates, and even take off some of the stagnating power, we may reasonably hope, that the Heart may recover such force, as may propel the stagnating Liquors in the Brain, and Medulla Oblongata, or that we may relieve our Patients with a great

great deal of certainty and in a short time , and to put him in a condition to reap advantage from internal Medicins that could do him no service before : And this may be done by such ways of bleeding , whereby the blood being determined more to one part than another , more to the place where there is no cause for obstruction , than to one where it already is , there may be some of the obstructing force taken off , or it may be done by *Revulsion* and *Derivation* , a practice so confirmed by daily experience , as well as by that of the Ancients of all Ages ; tho its reason was never to be assigned , but by supposing *Harvey's* most noble Theorem , the *Circulation of the blood* , Whatever ; contrary use some of our Modern Physicians have pleas'd to make of it , without any reason . For , if the Blood's motion is quicker by bleeding , and in that Vessel where the wound is made , than it is in any other Vessel of the

the opposite side, and that has no communion with this, or even in the same Vessel; before the bleeding; 'Tis certain that there will a greater quantity of blood flow thro that Vessel than there does in its opposite Vessel in the same space of time, or did throw it self before the Venesection; and that if this emissary is made upon a Vein that is continued with an obstructed Artery, this new outlet of the Blood will take off some hundreds of degrees of resistance that it had from the blood contained in its Channel; or by the different ways of bleeding there will be *Revulsion* and *Derivation* as was to be proved. Now the blood's motion must be quicker, because the powers that propel the blood, or rather the blood it self, does not communicate, or does not lose, by a great deal, so much of its force, when it moves thorough a Vessel, or its processles even to the Heart, as where there is an emissary made, where there is none. This is most evident upon this

this account, because the parts of blood that are next to the Heart propelling the parts that are more remote, lose a thousand times more of their motion when they propel the blood thorough a whole Channel, than when the Vessel has a large emissary made upon it, the proportion betwixt the column of blood as it runs in a continued course (the parts of blood being contiguous one to another in their motion from the left Ventricle of the Heart, till they return into the right) and as it runs thorough an emissary into the air being as 1 to 1000, or by some calculations as 1 to 1200 or thereabouts. But not to insist upon this, and that some who are accustomed to more nice calculations, may be capable to conceive the truth of this proposition we advance ; let them but call into their thoughts what happens constantly in bleeding ; where we may see run out of one Vein some ten or twelve ounces of blood in little more than a minute, and shewing such quantities over all the body, then considering the Mass and

and bigness of the Vessels, and so he'll find this excessive velocity is either to be allowed, or else his quantity of Blood must grow infinitely upon him, and extraordinarily beyond a reasonable allowance. And now it being clear, that not only the *Doctrin of Revulsion* and *Derivation* is to be accounted for by supposing the Circulation of the Blood, but even that they who believe that this Doctrin is contrary to this Proposition, are perfectly ignorant of this noble Theory, the *Circulation of the Blood*, and its great Effects; I will proceed to the Cure of the Patient in the Fit of the Apoplexy; and because things could not be got ready soon enough for a more considerable Revulsion by Bleeding him in the Foot, I caus'd eight Ounces to be taken out of his Arm, through a large Orifice, and thereafter, because he had abundance of Blood, 3 xvij. were taken out of his right Jugular, because they convey the Blood immediatly from the Sinus of the Brain, into which these Arteries discharge themselves; which Operation, with smelling at some strong Spirit

of Hart's horn, brought him out of the Fit while the Surgeon was Bleeding him; after the Fit was over, he had a Clyster, not at all stronger than usually, and took now and then three spoonfuls of this Julep.

R aq. last. alexiter. 3v. spirit. vin.
3ij. aq. theriacal. 3j. Tinetur. Castor.
3j. M. ac cum. syr. fl. caryophyl 3j.
f. julap. Cujus bibat oockl. iiij. tertia
quaque hora.

He had a Seton in his Neck for one Month, and his ordinary drink was the following decoction.

R lign. Guaiac. 3vj. Cortic. ejusdem 3ij. Santal. rub. citrin. an. 3vj.
Coq. & digerant. l. a. in s. q. aq.
font. ad 1bvj. Circa finem addend.
passul. major. integr. 3v. Colatura
servetur usui.

All this time he had suffer'd no relapse, nor since as I can learn.

Observation XXVIII.

T. F.—who had been ill of a long time, of a difficulty of Breathing, of that sort that's call'd an *Asthma*, according to an Ancient verse,

*Disnia se celat, canit Asma malumque
revelat,
Ortonia quoque morbo vexatur utro-
que.*

His *Pulse* was slower than usually, he had no *Appetite*, and was of a *Cachectical* disposition.

Now, since an *Influx* of the *Animal Spirits* into the *Muscles* of the *Thorax*, in its proper *disposition*, as that of the *Lungs*, *Air* and *Blood* are absolutely necessary in a natural respiration; so any one or more of these, or all together being vitiated will occasion a difficulty of Breathing, which are more particularly to be accounted for by those that write, on purpose, upon that Subject; in this case, his thicker *Blood* not being able to pass quickly enough through

his Lungs did produce this *Asthma* ; and therefore being first call'd to him while he was in a very severe Fit, I order'd him immediately to be let twelve Ounces of Blood ; next Morning which was the 25 of June, he took gr. vij. of *Tartar. Emetic.* which produced the desired effect ; and the day after he took this purge.

Rx resin. jalapp. gr. x. mercur. d. gr. viij. trochisc. Alhanc. gr. ij. gum. ammoniac. solut. ac parum inspissat. q. s. ut f. pil. N°. v. Quas capiat multo mane cum regime.

After he had taken these Pills, he began this Tincture, which I had order'd to be prepar'd in the mean time.

Rx rad gentian. 3ij. summitat. hyssop. puleg. centaur. min. M. j. baccar. juniper. 3ij. croc. Anglic. in pet. ligat. 3j. milleped. viv. ac mundat. N°. xl. preparatis s. a. affund. vin Xeresens. & 15ij. ac postquam fuerint per biduum in infusione, b. bat cochl. v. bis in die.

He found himself in less than a Month, a great deal easier than he had been for a year before, and I hope he has e're now recover'd his perfect Health.

Observation XXIX.

T— B— was taken with an Ef-
flux of yellow Matter out of his
Yard, in one days time, after some
impure Embraces, he had a scalding
of his Urin, a painful erection, and
une chorde.

He complain'd to me as soon almost as it appear'd, and he was perfectly cur'd of this misfortune, the Gleet and all its attendants in twelve days, by the method I hinted in my last Book. The Gonorrhæa in this way of Cure, has this constant appearance thro' the whole course, as I have hitherto observed; for the first three or four days, it runs but moderately of a thicker kind of stuff, from the Fourth or Fifth, to the Ninth thinner and in a greater abundance, very yellow and sometimes green; about the Ninth it generally changes its colour to an equal sub-

stance, and the desired whiteness, decreasing considerably in its quantity, till on the Twelfth, Thirteenth or Fourteenth, it quite vanishes, daily lessening by degrees, its substance becoming thicker and whiter, the lesser it grows ; after the same very way which we observe in other Ulcers.

I could relate more Instances of this kind, if it were not too tedious to read Cures, without knowing the Method, and Instruments that contributed towards them ; and therefore I will add no more Observations of this Nature, but rather divert our selves a little with some Reasonings about its Antiquity, which, in my Opinion, is pretty plainly to be read in a great many places in Ancient History, but more especially among the Comedians. Tho' this has seem'd to be very obscure, and we are contented to refer its Original to the Siege of *Naples* ; yet to lay aside prophane History, at this time, I will only alledge that an Account of may easily be found in the Holy Scriptures themselves, and by the way of expressing it there ; this seems

seems to be as Ancient as the time of Women having Monthly and Child-bed purgations, which succeed the description of our Diseases here, from the very beginning of Mankind. The place where I think this is so plainly intimated, is when *Moses* Institutes the Ceremonies of the *Jews* purifying themselves, he says in the 2d verse of the 15th Chapter of *Leviticus*, *When any Man has a Running Issue out of his Flesh, &c.* It is describ'd very plainly and beyond a guess: And the Word *Flesh* here spoken of, is frequently taken in holly writ for the Privy Member of a Man, as in the Institution of the Circumcision with *Abraham*, in the 17th Chapter of *Genesis* at the 11th verse, and when God Almighty denounces his Wrath against the Whoredom of *Jerusalem*, in the 26th verse of the 17th Chapter of *Ezekiel's Prophesies*, he says, *Thou hast also committed Fornication with the Ægyptians thy neighbours, great of Flesh*, as he had said, *cum Mutoneatis Ægyptis*; and in the 20th verse of the 23d Chapter of that Prophet's Book, *For she doted upon their paramours, whose Flesh is as the*

Fleſh of Asses, &c. Now seeing the word *Fleſh* here spoke of is *Penis*, we can be at no dispute about the Accident related of it in the sequel of this Chapter, in *Leviticus*: And it being the Running of the Reins or *Clap*, that *Moses* Institutes this Ceremony of Purification for, 'tis evident also, that this Sickness thus to be Purified for, was known to *Moses*, and frequent among those that received those Laws, or that it was rife among the Children of *Israel*; and so, among the most Ancient things that we know, and more Ancient than the most of, or any other Diseases: But this is still more clear that we read it in the *French* Translation, or in that of the vulgar Latin. And therefore 'tis plain, from this single Instance, that this Disease is more Ancient than the first of the times we use to assign, as I intneded to prove.

Observation XXX.

D— J—a Boatswain's Mate in his Majesties Ship the—— was seis'd with the above-mentioned Disease in an

an *East India Voyage*, and had a Cure, that stopt his Running ; about three Months after, he was troubled with great, thick, crusty Scabs on his Arms ; for which he had a great many Liniments and other Med'cins, by which the Scabs fell off, but still sprung up again ; 'till meeting him this Summer he was perfectly Cured by the following method : He took a Bolus of *Turbib Mineral* twice a Week, and his constant drink was a decoction of *Guaiac.* for one Month, the Remedies were these,

Rx Turpib. mineral gr. viij. cons. rosar. rub. q. s. ut f. Bolus, quem Capiat cum regime Repetatur ad alteram vicem hac septimana, ac bis hebdomadib. seq. ad mensem integrum.

Rx Rasur. lign. guaiac. 3ij. cortis. ejusd. 3 fl. Coq. s. a. in aq. fontan. s. q. ad 1ij. Circa finem addendo passul. major. integr. 3 iv aut liquirit. raspat. 3 fl. f. Colatura in lagena vitrea recondenda ad usum.

In the short time he us'd these things, his Scabs fell off, and he became very fat; neither had any return of his fulsome Disease.

Observation XXXI.

Mr. Ankers, Captain Greenway's Clark in the *Edgar*, was troubled with a want of Appetite for his Vituals, a prodigious spitting, an apprehension of dying suddenly, belching, a weak and rare Pulse, and a sinking at his Heart, with a difficulty in fetching his Breath.

'Tis evident that this Sicknes which held him of a long time, and for which he had advis'd with a great many, to no purpose, is no other than the *Melancholia Hypochondriaca*, or that which People commonly call the *Spleen*, tho' it often times has the least part in that Disease; and almost none of these Symptoms I have just now nam'd, can be the consequences of that Part's being any way affected, as I might easily demonstrate by a more particular resolution of the Symptoms of this Distemper: But since it is no other way

ways under my consideration, at present, than as 'tis an *Interloping* Sickness, I may suppose its Causes, in laying down the Indications for its Cure. And therefore, because these *Belchings*, *Indigestion*, and *Windiness* in the first Passages, the *Slowness* of the *Pulse*, *Unactiveness*, and *Whiteness* of the Urine, argue a defect in the attrition of the *Chyle*, and an unsuitness for its being mix'd with the *Blood*, I order'd him a Vomit both to cleanse the first Passages, that the *Chyle* and *Med'cins* might be transmitted into the *Blood* in their full force, and that without any loss of *Spirits*, as also that the thick and languishing *Blood* might receive a new tour and determination, by the violent Contraction of almost all the *Muscles*, in the *time* of *vomiting*. The Vomit was five grains of *Tartarum Emeticum*, dissolv'd in two or three spoonfuls of *White-wine*; he drank now and then large draughts of thin *Water-gruel* in the intervals of the vomiting. It wrought very easily for $\frac{1}{2}$ of an Hour, in which time he had four vomits and two stools; about an hour

hour after it had done working, he drank a glass of warm Sherry, and laid himself to sleep; and next Morning took the following Potion.

*℞ fol. senn. sine stip. 3ij. rad. rhab.
elect. incis. 3j. infund. tepid. per noct.
in decoct. fortior. passul. major. 3vij.
mane colatura per express. facta adde syr.
de rhamn. 3 fl. aq. epidemic. 3ij. fl. til.
3 fl. M. ac. bibat cum regime.*

This purg'd him five times without any griping, and to the satisfaction of us all: The day after he began an infusion that was preparing for him, from the beginning of this course, whereof this is the form.

*℞ rad. gentian. 3ij. Aristol. rotund.
3j. summit. cent. min. absynth. Card.
Benedict. an M. j. fol. cochlear. hortens.
M. ij. Cortic. aurant. 3j. baccar. juniper.
3ij. præparatis s. a. affund. vin. Xere-
sens. ℥iv. ac macerent. per dies quatuor
vel quinque; dein bibat cochl. iv. bis ter-
ve quotidie. Infusio, vero, tantum cole-
tur tempore usus; ac persistat in hujus
infusioni usu ad mensem integrum.*

He drank this Tincture the whole time appointed, which dissipated all his fears of a sudden Death, and brought him a good Stomach, and easie Nights.

Observation XXXII.

A—M— Captain of his Majestie's Ship—— was taken ill of a want of Appetite, Thoughtfulness, Disturbance in his sleep, Melancholly dreams, and a Defect of Spirits ; his Pulse was weak, and there were small Swellings in different parts of his Body, in the Morning especially, tho' they went off about Noon.

'Tis evident that the Sickness is of the same sort with the former, and therefore I order'd him to be let nine Ounces of Blood, and next day to take this Vomit.

R₂ Tartar. emetic. gr. iv. Solv. in vin. alb. Gallic. cochl. uno vel altero, ac Capiat mane cum regimine.

It wrought five times, and made him go once to stool, all the time of its Operation he drank large draughts of

of Posset-drink ; next day Morning he took these Pills early in the Morning.

*Rx pil. Rud. gr. xxv. Merc. d. gr. viij.
Tartar. vitriolat gr. v. elixir. propri-
et. q. s. ut f. pil. N°. v. Quas capiat
multo mane, cum regimine, ac superdor-
miendo.*

They purg'd him four times with a great deal of ease ; and next Morning he began the following Electuary.

*Rx cortie. aurant. condit. rad. helen.
condit. 3ij. z. in z. in Ind condit. 3vj.
pulver. Ari composit. 3ij. theriac. An-
dromach. 3j. syr. chalybeat. q. s. ut f.
electuar. de quo Capiat quantitat. nuc.
moschat. major. bis in die, superbibendo
vini cuiuslibet generos. poculum.*

Every Evening about bed time, he took a Dose of these Pills.

*Rx gum. ammoniac. sagapen. 3j. ent.
vener. 3ij. croc. Anglic. subtil. pulverat.
3lb sal. volatil. succin. C. C. gr. xv.
elix. proprietat. q. s. ut f. pil. N°. xl.*

ac Capiat tres alternis noctibus, enido
Cubitum.

With the use of these Med'cins,
and such a bitter Infusion as was pre-
scrib'd before, he recover'd perfect-
ly in the space of one Month.

Observation XXXIII.

B — D — Surgeon of his Maje-
ties Ship the — after a Summer's
custom of drinking drams of Bran-
dy and other Spirituous Liquors, was
perfectly dried up, and decay'd; he
had no Appetite for Meat, he had a
great drought, he Sweat very much
in the night, and could not sleep:
He had taken a Vomit and was drink-
ing decoct. amar. ashooar when I saw
him first; so I forbid him to use the
decoction any longer, and desir'd his
whole diet might be Water-gruel,
Whey, Milk and the like, and to
take frequently some of the following
Electuary.

Rx pulp. passul major. cons. cynosbat.
cochlear an 3j. cortic. citr. condit 3 ℥
ocul. caner. ppt. 3ij. sal. prunel. 3j ℥.
syr.

*syr. alth. Fernel. q. s. ut f. electuar.
Cujus capiat magnitud. nuc. myristic.
bis vel ter in die, superbibendo seri lact.
recent. ac non falsi poculum.*

He continu'd faithfully in the use
of these Med'cins for a Month, and
recover'd sensibly every day.

Observation XXXIV.

*F— L— Captain of his Majes-
tie's Ship —* was troubled with
a pain in his Stomach, a want of Ap-
petite, and what he eat, lay heavy
and did not digest, his Pulse was a
crawling rare Pulse, he was subject
to sudden Faintings, and had always
most Melancholy dreams.

This being another Fit of the *Mel-
ancholia Hypochondriaca*, I order'd
him to take a Vomit, next Morn-
ing, of five Grains of *Tartar. emetic.*
drinking large draughts of thin wa-
ter gruel between every Fit of Vo-
miting : The day following he
drank this Potion.

Rx fol. senn. virent & astipit. mundat.
 3 fl rad. rhab. elect. ac incis. 3j. fl.
 chammomil. pug. ij. crem. Tartar gr.
 xv. inf. per noct. in decoct. passul. major.
 3 vi. Colatur. mane per expr. fact. add.
 aq. cin. hordeat. 3j. M. ac bibat cum re-
 gime.

This purg'd him six or seven times
 but grip'd him a little, and inter-
 mitting one day, on the third the
 Potion was repeated with the same
 success as before; then, he began
 to take this Infusion.

Rx rad. Imperator 3ij. raphan. ar-
 morac. 3j fl. fol. mentb. puleg. beton.
 summitat. cent. min. fl chamom. an M.
 j. rad. galang. 3 fl. z. z. alb 3ij. cor-
 tic. aurant. i 3ij. mac. 3ij. limatur.
 chalyb. 3 viij. In in vin hispan. 1/2 viij. post
 macerat. quatuor dierum, bibat jejuno
 ventriculo, cochl. iv. mane, & totidem
 bora quinta post meridiem.

He drank also two drops of ol. sul-
 phur. per camp. in a glass of wine half
 an hour before Dinner for a whole
 Month, and recover'd very fast.

To

To these Histories I could add a hundred more, of People that have been in the same condition after Fevers; for how can it be expected, that after one, who is very weak and just recover'd of a Fever, and falls, without due strength, to the eating of the Ship's salt Provisions, which I proved to require a vast deal of Exercise, Work and Fatigue, at any time; I say, how can it be expected that he can recover strength upon such a diet, which he is not so much as able to digest? But this may be almost intirely prevented, by making their Burgoo-diet more grateful, by a greater allowance off Butter, or fresh Provisions, which will not do quite so well. I am confident that this one thing would save a great many Mens lives, how small and inconsiderable soever it may seem to be, and make the Service to be better performed; and I dare positively affirm, that there can be no inconvenience reasonably alledged, so much as by a thousand Consequences, to the contrary, except a little more Expence and Charge to the King, and that but very little, and

and ev'n that sav'd by the discreet management of the Commissioners of the Admiralty and Navy, which has been singular, in this long War. But as things stand now, I have prevented very much this inconvenience, by confining them, as much as possible, to a diet of Water-gruel, Burgoo, Bread and Butter, for the first week of their recovery; drinking half a pint of the bitter draught without the Purgatives, every morning, or longer as 'tis needful. But we have more considerable Errors in my way, or the administering of Physick to the Fleet, which would be less chargeable, and of greater advantage, if amended; and I must believe, that all these things will be sufficiently look'd into, in their proper time.

Observation XXXV.

Mr. Smith, second Lieutenant of the *Victory*, was troubled with a Cough, and difficulty of breathing, he had a pain in his Breast, he was Costive and had no Appetite.

I order'd him immediately to be let fourteen Ounces of Blood, and next day to take this purge.

*Rx pil. Rud. 3 ℥ calomelan. gr. viij.
Tartar. vitriolat. gr. v. elix. proprietat.
q. s. ut f. pil. N^o. v. quas Capiat. multo
mane cum regimine & superdormiendo.
Repetatur ad alteram vicem interjecto
die unico.*

When this was done, he was a little better, yet the pain in his Breast continuing, I order'd him again to be let Blood, and taking once more a dose of the Physick, to begin the use of this Electuary, and to live very abstemiously, drinking no strong drink, and eating only Watergruel.

*Rx pulp. passul. major. conserv. rosar.
rub. 3 ij. theriac. Andromach. 3 iij.
syr. alth. fernel. parum, ut f. electuar. de
quo Capiat magnitud. nuc. moschat. bis
vel ter in die.*

Before he had consum'd this Electuary, he was perfectly well. I know that I shall be blam'd among great

great Persons that neglect all small things, for observing this trivial thing of a *Cough*, and for Curing it this way: But I am not ashame'd to own my inclinations to observe the meanest things that may happen ; tho', at the same time, I think a Cough one of the greatest Distempers that may be, either as 'tis the beginner of the greatest Diseases, or as it has been the least accounted for, and the Indications of Cure most injudiciously establish'd. For a Cough naturally introduces *Fevers*, *Apoplexies*, *Consumptions*, *Convulsive Diseases*, &c. and the sooner by the ordinary way of Cure, which is generally endeavour'd by *thickning Lozenges*, or *diaphoretical Med'cins* ; or, which is ridiculous, by such things that *absorb* *Acids*, those pernicious Causes of this Disease, as they are pleas'd to think. The first method in any Cough, that does not go off of it self, makes the Patient *Asthmatical*, *Lethargical*, or throws him into some *Convulsive Disease* ; the second, which is done to open the Pores, which most probably were never shut, nor can be imagin'd to be so, by any reason yet

al-

alleged, is the plain beginner of Fevers and Sickneses of that sort ; and as the third is prescrib'd without a design, so it never produces any good effect , but prolongs the Disease, so that if it does not go off in spite of the Med'cins, it ends in a decay. But whoever will give himself the trouble to remember the time wherein we are most apt to catch cold, may easily discern that it is the too great *lightness* of the Air that occasions the slower motion of the Blood, which is the immediate cause of this Distemper ; for the Blood being more slowly mov'd, does especially produce that larger discharge of *Lympha* in the Salival Vessels, after the manner hinted in my *Oecon. Animal.* which *Lympha* being separated in a great abundance about the Mouth, Throat, or in the *Aspera Arteria* it self, and falling into the Lungs, does very often by its own weight provoke the Lungs into that action we know by the Name of Cough ; tho' this be not the proper place either to explain what it is, how it is produc'd, or what are its causes : Only it is evident

dent that this large discharge of *Lympha*, and the other accidents in a Cough proceeding from the Blood's slower motion, and greater quantity; that this greater quantity is to be lessen'd, and the Blood's motion heighten'd by ways that are not repugnant to one another, which may be done by the foregoing method, tho' the reason is to be deduc'd in a great measure, from what I have said about the Cure of continu'd Fevers, in the *Second Part* of my Book of Sea Sickneses.

Observation XXXVI.

¶ Mr. *Listock*, a Lieutenant in his Majestie's Ship the *Royal William*, was ill of a violent Cough and a spitting of Blood, which made him very pale and lean; he had a weak Pulse, he did not sleep well in the Night, and was sometimes Feverish.

The Cough and spiting of Blood, being the great Diseases in this case, and the other Symptoms but the consequences of them; 'tis certain that a spitting of Blood being only produc'd by the greater force made upon

upon the tenderer and smaller Vessels, about the Nose, Mouth, Throat, *Aspera Arteria*, and the Lungs themselves; that the natural way of Curing this Disease, is by lessening this violent force of the Blood, that may come from its extraordinary *Rarefaction*, *Quantity* or *Motion*, and repairing the defects and inconveniences the Vessels have sustained by this eruption: But before I speak of the Cure, some will expect that I should determine the part for which this Blood was voided, which is of no great consequence to the Cure, tho' it may be in a clear Prognostick, yet ev'n this I have neglected, because 'twould spend too much time in settling more evident and certain signs, than we find among Authors; for who that has read any thing of Physick, does not see that we all follow Hippocrat. 5. Aph. 13. *Quicunque spumantem sanguinem extuissent, iis expulmone educitur*, in settling this Efflux from the Lungs, rather in the Throat or any where else, where it is demonstrable that Blood may be frothy, tho' it never came from the Lungs; and that there may be Vessels

fels broken in the Lungs, out of which a great deal of Blood may be voided, and yet this may not be frothy. I say not to spend too much time, and from the purpose upon this Subject, I am content to give an account of the way how I cur'd my Patient, tho' he eat salt Victuals almost all the while.

He was first let Blood, both to lessen the quantity and to make a Revulsion, and then because the spitting was not so frequent, and his Blood seem'd to be in an ill condition, he was purg'd with half a dram of Rhubarb, and next took this Electuary.

*Be conf. cynosbat. pulp. passul. major
an 3ij. lapid. hematit. ppe. pulv. sang.
dracon. an 3ij. sal. prunell. 3iſſ. the-
riac. Andromach. 3ij. syr de ros. sicc.
q. s. ut f. electuar. Cujus capiat quam-
ratem nuc. muschat. major. bis vel ter in
die.*

His drink was Water, and a little red Wine, and in every draught, he had 3iſſ. sal. prunellæ; and at Bed

G time

time he took twice a Week the following Bolus.

*Bx spermat. ret. non rancid. gr. xv..
pil. de styrac. gr. vj. cons. rosar. rub. q.
s. ut f. bolus, quem Capiat hora som-
ni.*

After he had taken these thingss eight or ten Days, he found himself a great deal better, and continu'd using them for a Month or two more; only the Electuary was a little alter'd, and made not so bind- ing.

Observation XXXVII.

G — D — Purser of his Majesty's Ship the — — — was taken ill of a sharp pricking pain in his left side, he was somewhat Feverish, he breath'd thick, and with a great deal of difficulty, his Pulse was hard and frequent, and withal he had a Cough.

'Tis evident by this description, That he was ill of a Pleurisie, and because this affection is only an inflammation of the *Pleura*, and, perhaps,

haps, of the Muscles themselves, which is produc'd by the Blood's stagnating in the *Arteries* of these parts, where this affection is: And therefore, I order'd twelve Ounces of Blood to be taken out of his right Arm, and the very same minute I saw him ; and enjoyn'd it to be repeated, if the pain did not sensibly abate in four hours time, and in 24 hours time, he lost 48 Ounces of Blood at convenient intervals: his drink was barley decoction, in every draught of which, was mixt a dose of purifi'd *Nitre* ; and at night, going to Bed, he drank off this Emulsion.

R & *semin.* iv. *frigid.* *major.* 3*j.* *semin.* *papav.* *alb.* 3*ij.* *amygd.* *d.* N°. x. *Contundant.* *l.* *a.* *in mortar.* *marmor.* *ac f.* *emuls.* *sensim.* *affundendo decoct.* *hord.* 3*x.* *Colatur.* *clar.* *add.* *syr.* *de mecon.* 3*j.*

He abstain'd from eating any thing but Water-gruel for ten days, yet a day or two after the violence of the pain was abated, I order'd him this Purge, for the same rea-

sions he was let Blood, tho' 'tis generally forbidden by Authors.

℞ fol. senn. sine stipit. 3 ℥. fl. melilot. pug. ij. crem. tartar 3j. inf. per noctem in decoct. tamarind. 3vj. Colatur. per express. fact. add syr. dr. rhamn. 3j. M. ac. Capiat cum regimine.

This purg'd him very easily, and with a great deal of success and satisfaction; and besides these things, he took nothing else, only the party was anointed with a liniment of the Oyntment of *Marsh-mallows* and *Linseed oyl*, and so he recovered.

Observation XXXVIII.

John Turner, had been ill for above a Year of want of Appetite, a Swelling, for the most part of the day, in the Muscles of all his Body, but especially of his Legs, his colour was greasie, and like Clay, his Pulse was weak, and he made but little water.

The

The History of these Symptoms, plainly declares what this Disease is, that it is a Dropsey, and of that sort they call an *Anasarca* or *Leucophaemata*: The ancient Physicians thinking that it was entirely Phlegm subsisting some way between the Muscles that gave this white or pale colour, and made the Flesh capable to retain the print of any thing, that was press'd upon it, for some time. 'Tis certainly a very great weakness of the whole mass of Blood, ev'n so great, that it seems the Heart is not supplied with a sufficient quantity of Spirits to propel the mass of Blood, and to accommodate the thing to their way of speaking, seems to be full of Phlegm; but we must believe, that when the Sickness goes no farther than an *Anasarca*, there is no breach of the Vessels, none of this stuff lodg'd between the interstices of the Muscles; because it would produce quite other effects than we see. This weakness may be procur'd many ways, either because the Spirits are mightily exhausted by too great evacuations, made by

our selves or such as may be customary or critical, or because there are not sufficient quantities of Spirits made, through an ill way of living, or the Blood may ev'n be made so thick by some usual evacuations, being suppress'd, that this defect of Spirits may be very sensible. In all these Circumstances, this weaken'd Blood not having that quantity of motion, I have prov'd necessary for making the Perspiration ; the fleems that are daily voided that way in a great abundance being detain'd in a great measure, and heightning the bulk of this sordid mass of Blood that was not easily propell'd, must needs lose of its motion, by this daily addition, and subsist in the smaller and more capillary Vessels, especially in extream parts of the Body, and proportionably to this addition, the growing swelling will be.

Now, for the Cure of this Disease, the want of Spirits we must endeavour to supply, and to correct the viscidity and toughness of the Blood : Upon these designs, Authors have advis'd sweating Med'cins

Med'cins, which seldom have their effect in this Disease ; and I must believe very hurtful, if they had, by carrying off some of the more spirituous parts of the Blood ; and 'tis certain that when this Disease succeeds any immoderate evacuations that the fam'd purgatives are as unreasonable as letting of Blood : tho' when it comes from a suppression of some usual evacuations, purgatives conveniently used may be of great advantage : Yet Vomits for the reasons assign'd in the second part, about curing of Agues may be of infinite advantage, as Authors have found in their practise.

The method I pursu'd for his Cure was this ; he first took gr. vij. of Tartar. emetic. which wrought very well, Vomiting eight times and giving him four stools ; next day he took the following purgative.

Rx Pil. Rud. 3 fl. Calomelan. gr. xij. clater. gr. j. Elixir. proprietat. q. s. ut f. pil. N°. v. quas capiat multo mane cum regimine ac superdormiendo. Repe- tantur sernel vel bis qualibet septimana.

Rx radic. genian. raphan. sylvestr. an.
 3ij. Zedoar. Galanga an. 3j. summitat.
 absinth. card. Benedict. centaur. min.
 an. M. j. fls. salvi. agrimon. rut. murar.
 cochlear. an. M. j. cortic. aurant. 3j.
 Wimeran. 3fls. baccar juniper. 3iv.
 semix. snap. 3jfls. ppiis f. a. effundant.
 cerevis. plus quam mediocr. Hxvj. Stent
 per diem unum aut alterum in infusione;
 dein bibat pro potu ordinario: Affunde.
 tamen poterit cerevisia eisdem materialib.
 ad alteram vicem.

With the first opportunity he was
 desired to purchase this Electuary
 and to take it as I have here pre-
 scrib'd it, upon Riverius recom-
 mendation in the 97th Observation,
 Cent 2.

Rx conf. fl. tamarisc. capil. vener an.
 3jfls. conserv. rad. enul. 3fls. conf. al-
 kerm. 3ij. sat. absynth. tamarisc. an.
 3j. rasur. ebor. pulverisat. spec. diarrhod.
 Abbat an. 3j. syr. capil. vener. q. f. ut f.
 epiat. Cujus capiat quantitat. castan. sin-
 gul. dictus duabus horis ante pastum su-
 perbibendo

perbibendo vini enjuslibet generosissimi poculum.

By the exact use of these things he recover'd wonderfully, and attain'd to his perfect Health in the space of three Months.

But besides *Arasarcas*, 'tis almost a wonder that that other sort of Dropsie and Ascites is so rare amongst People of gross enough habits of Body, that drink so much of spirituous Liquors; and they really observe themselves, that such as drink *dry Drams* (as they call them) seldom escape this misfortune; whereas when their *Brandy* is temper'd with Ship's Beer or rather in *Flip* or *Punch*, it becomes a most wholesome and useful Drink, considering their Diet and way of living. For this is it that these *dry Drams* drank at Sea or a Shoar do, they shrivel all the Membranes and Membranous parts of our Body, by which our Stomachs is made less sensible of hunger, and uncapable of performing its office in digesting our Victuals, our Veins, Arteries and Nerves are dried up, so that they are not so easily contracted

and bent outwards, which of it self creates old Age, and a thousand other inconveniences : These *dry Drams* with their loose *Spirit*, that's so freely put in motion where ever it is, disperses and destroys the native and benign Spirits of our Blood, and so disposes it to a lesser motion. But not to insist upon the infinite misfortunes that attend these *dried and withered Vessels*, especially the *Arteries* ; how by their not being Contracted and Distended, the Blood may want some considerable determinations in its Motion, the secretions over all the Body may be diminished, and the Liquors separated even not propell'd through their proper ducts into their proper Receptacles or sometimes into the Air ; but I say, not to insist upon these inconveniences, which are so considerable, that upon them only depends the well being, nay indeed the *being* at all of the Creature ; yet if the Vessels be thus hardened and shrivel'd with such spirituous Liquors, *Brandy*, *Plague-Water*, &c. they are not at all fitted either to the Motions we are to perform, or the greater or lesser quantity of the

the Blood ; for the Blood must either never be rarefied or possess greater space, or we never change our postures, else these Vessels must break ; because, when the Vessels are so hardened , and proceeding , as we may conceive them , in different shapes from the Heart through the whole Body , they cannot remain whole and entire , except they keep the same Posture ; but that cannot be , if the parts thorough which they run change their Posture , and this is chang'd in every one of their Motions ; the same may be alledg'd of the Blood's taking up more space in its augmentation. But in this hardning of these Vessels we cannot apprehend them to be rigid Bodies, perfectly stiff , and so not to break as matter in that circumstance ; yet being harder , and not so pliable as muscular Membranes or parts made up of Fibres and Muscles or Blood Vessels variously interwoven as they originally are ; they must be torn in considerable motions or growth of Blood , which emissaries and holes transmit Liquors that can pass the diameters of these small Wounds , and in a

quan-

quantity proportionable to the resistance the sides of these Holes make to the circulating Blood : So 'tis no wonder if considerable quantities of Serum are thus discharged into the cavity of the *Abdomen, Thorax,* or on the Brain it self, as it may ouze thorough these small emissaries upon these places ; and make an Ascites, Empyema and Hydrocephalus, which are of a very considerable consequence to deter all excessive drinkers of these *loose Spirits,* whatever specious names some of them may have.

Observation XXXIX.

Adam Wilkins, was troubled for two or three years with a Costiveness, that he almost never went to Stool, but once in four or five days ; at last having not been at Stool for a fortnight, he began to have violent Cholick pains, a vomiting and a suppression of Urin, with a prodigious heat upon the Reins of his Intestines or over all his Belly.

The

The Surgeon had given him emollient Clysters of Oyls, and decoctions of Plants, gentle Purgatives, and such other things before I saw him, but without the desired success. When I first visited him, he had a most violent pain, and had not slept for a great many Nights. And besides, *Hippocrat.* his prognostick in his *prænotiones*, verse 48. *Cum Ileosis interceptio est Urinæ cito Mors venit*, gave me but little hopes of any advantage that might accrue to him by my help; since our reason as well as the authority of that great Physician makes always this appearance most ominous; for, that the Urin may be intercepted by the Ileum, this Gut must be so swoln as to compress the neck of the Bladder and adjacent parts, which will be a great and irreparable tumor: And if the tumor is not so great as to compress the neck of the Bladder, but does compress the Ureters, both which in their whole length lye immediately under the Ileum, so that the falling of the Urin into the Bladder is intercepted, it must of necessity cause Death, both because of this swelling of

of the Ileum, and this interruption in the Urin which cannot be separated from the Blood. But because we cannot be positively sure of the power and efficacy of our Med'cins, the strength of our Patients , and other circumstances; we are oblig'd to use our best endeavours while there is life; and therefore I order'd him doubl'd pieces of Flannel, wet in hot anodyn Fomentations to be applyed over his Belly frequently every Day. His Drink was a decoction of Chamomile Flowers with a little white Wine added to it: And to stay his vomiting he had the following mixture.

Rx sal. absynth. 3ij. succ. limon. cochl. ii. M. ut fermentescant, ac bibat priusquam penitus desierit ebullitio.

This stopp'd his vomiting for some time, and stronger things as *Opium hujus morbi asylum*, as a learned Doctor calls it, seem'd unreasonable because of the vast inflammation that seem'd to be upon his intestins, and the continu'd Costiveness. I caus'd eight or

or ten ounces of an emollient decoction to be injected, to which was added two ounces of vin. emetic. turbid: the Clyster came off by it self, but nothing like Excrements. In the evening he took this Bolus both for his Urin and Costiveness.

*Rx milleped. ppterum, sal. polychrest.
an. 3 fl. terebinth. venet. q. s. ut f. bolus,
quem capiat eco chleari syrup. de alth.
Fernel.*

He found himself easier after it, and pass'd a little Urin; but all I could contrive was not of a force capable to vanquish his Distemper, for in three days after I saw him, he had an end put to his troublesome days, by, I'm perswaded, a more desirable Death.

Observation XL.

Adam Littleton, was taken ill of a vomiting and going to stool for three days; he vomited a great deal of yellow and green stuff, slept little or none, all that time, and was very weak.

This

This being a *Cholera morbus*, which does not at all proceed from any heterogeneous, unconceivable mixture of unnatural and improper ferment with the Blood ; but rather from some nasty, sharp stuff lodg'd in the stomach, by a thousand things that may be antecedent causes to it, which being affixt to its coats, does determine the animal Spirits in its nerves to Convulsions, and by the greater sharpness of this matter affecting the upper part of the stomach, and the pylorus makes this violent vomiting and purging. This matter brought upwards, is thought of some to be sincere bile, contrary to all reason or any thought of how it ought to be supplied : Indeed, the small quantity of bile, that is prest out of the Gall-bladder, and brought into the stomach by this reverse motion, is very capable to colour a great deal of *Lympha* that's squeez'd out of the glands of the stomach, or brought from the *Pancreas*, and to affect it with its bitterness, without bringing us into a needless necessity of supposing this

this impossible supply of Bile. Upon the other side, there are some who seeing how closely the *Pylorus* is shut, in the case of vomiting, will not allow that any Bile can at all be convey'd into the stomach, from the Gall-bladder; and would rather have all this quantity to be given from some small glands we may sometimes discover in the stomach, and which contain a yellowish liquor, not very bitter, and of no quantity. But not only the greater quantity we see voided here, and sometimes three or four Mouth fuls of pure gall, brought up in the end of an artificial Vomit, convince us clearly that these are not the fountains, and source of so great a provision, wheresoever it is to be brought from: But it were easie to make it very plain, how the Gall is convey'd into the stomach, if this were the proper place; and I will only remember them of something of greater bulk that uses to be convey'd, without dispute, from the Guts, in an Iliack passion.

Now, since the whole cause of this Disease, is entirely lodg'd and con-

confin'd to the Stomach, and he had strength enough left to proceed in the surest method ; I resolv'd to promote the evacuation with something that was no Vomit of it self, but that washing away the sharp stuff lodg'd in the Stomach, it might be carried off by the common course of vomiting ; and when this store was exhausted, the Cure might reasonably be expected to succeed ; and therefore I advis'd him to drink large draughts of Ship's-beer made blood warm, which he did to so great an advantage, that he had not drank and vomited above twice, when his vomiting left off : That evening, tho' he had the following mixture,

Rx decoct. bord. 3ij. aq. cinam. hordeat. spirit. vin. an 3j. diacord. fræcastor. 3fl. M. ac bibat hora somni.

He slept very well, and keeping up three or four days, he was purg'd with 3vj. of the purging bitter Draught, and so recovered.

Observation XLI.

George Jones, of a thick habit of Body, and about twenty eight years of Age, was troubled with a Drop-sie, for a whole year, his Legs and Belly swell'd prodigiously ; but there were no signs of any Water contain'd in the cavity of the Abdomen ; he had a difficulty of breathing, and his Pulse was weak.

His Pulse and shortness of breath, gave me but small hopes of his recovery ; because, this more especially proceeds from the *Mediaстinum* and *Lungs*, being too much crowded by an overgrown *Liver*, which is very often *Schirrous* or full of *purulent* matter, and so past our recovering ; yet having declar'd the danger he was in, to those that were about him ; I prescrib'd him the following Med'cins to be taken in that order as I mention them hereafter.

Relixir. proprietat. 3*fl. spirit.*
C. C. gut. xx. M. ac Capiat. gut. xv.
bis in die in pocul. vini enjuslibet me-
rosioris.

Rurin. homin. san. *fl. terebinth.*
*venet. vitell. ovi solut 3*fl. sal. prunell.**
3ij. f. enim. quotidie injiciend-
um.

This Clyster, after an hour, came off, with a deal of nasty slimy stuff, and made him void great quantities of Urin ; by which he was mightily reviv'd ; yet, on the fifth day after the begining of these Med'cins he died. The day before his Death, he had such a violent pain in his Side and shortness of breath, that he could not be easie any way he lay ; 'till about ten hours before he died, his pain vanish'd, tho' his difficulty in breathing encreas'd, and he always said that he found something break within him ; which was not improbable, and it might be his Imposthumated Liver ; tho' I can do no more more

more but suspect so, since I was not there when he died, and the Surgeon did not give himself half an hours trouble for my satisfaction.

Observation XLII.

John Lambert, was taken ill, on 28th of *August*, of a pain in his Neck; he could not spit, he had a difficulty in fetching his Breath, his Eyes were red, he star'd and complain'd of a great heat in those parts.

'Tis plain that this sickness, I have now describ'd is a *Quinsey*, and tho' its seat is on the Neck, yet it may be easily apprehended how it affects the Face and Eyes, and might produce many terrible Symptoms by communication with the Brain: For, since the *Carotid* Arteries and the *Jugular* Veins creep along the Neck into the Head, they may be aserted and comprest by this inflammation, so that the Blood can neither flow freely into the Brain, nor returning, be carried into the Lungs; but stopping about the

the Face, must needs make this redness of it and the Eyes, and their fulness of Blood makes that *staring*, that almost *Tonical* motion and fixt look ; and wheresoever there is a stoppage of Blood there must be Heat and Warmth.

But to proceed to the Cure, I cauſ'd him be let eight ounces of Blood out of his left Arm ; and, in six hours after, ten out of the right Jugular ; for the reasons I assign in a like case p. 169. of my former Book of Sea sicknesses ; by which he was a great deal more easy, that flammœus colour of his Face and redness of Eyes disappear'd upon that last bleeding, he was easier in his Breathing, and his Spittle was thinner ; next day he took the following Purge.

*Rx decoct. amar. purgant. 3iv. syrup.
de spin. Cervin. 3j. M. ac Capiat cras
mane cum regimine.*

It purg'd him twelve times, and had the desired effect to all our satisfaction ; and then he began to take of this Lohoch.

Ex oc. cancr. ppt. 3j. pulv. fl. papav.
rhæd. spermat. cet. non rancid. an 3ij.
syr. alth. vel mel. puriss. q. s. ut f.
eclegma, de quo Capiat sapius indies.

His Drink was a decoction of Barley sweetned with Honey, which he drank as often, and as much as he pleaf'd. His Purge was renewed, and he recovered his Health, without any more trouble

I gave him no Gargarisms, which are always us'd in such cases ; because if I were of opinion that they cou'd be of any use, yet I'm convinc'd they are of no use, since seldom or never they can reach the part.

Observation XLIII.

F—— *D*—— Lieutenant of his Majestie's Ship the —— was taken ill the latter end of March, with a Costiveness, Sleepiness, want of Appetite, and his Skin, especially under his Nails and the Coats of his Eyes were all of a yellow colour

There

There being in this case such a thickness of the Blood, and Gall, that it was not separated in the Liver, nor convey'd into the Gall-Bladder, but being of an oily substance and swiming on the top of the Blood [in the Circulation, and some perhaps, sticking to the Vessels does certainly give this Colour ; and it not being discharg'd from the Gall-Bladder into the Intestins, neither tinges the Excrements nor contributes towards their excretion ; and therefore, that the Blood and Bile might be freed of its viscidity, and its obstructing parts promoted in their motion, I first ordered him a Vomit, and then other Med'cins, the forms whereof I add.

R. Tartar. emetic. gr. v. solvi in vin. alb. cochl. ij. ac bibat cum regimine, bariendo affatim de aqua tepida quolibet intervallo vomitorij nisus.

This Vomited him six times, and gave him one Stool ; next Day he drank this Potion.

R. radic. rub. tinctor. chelidon. major. an. 3j. summitat. cent. minor. Card. Benedict fl. chamomil. aa. M. j. baccar. junip. 3ij. Stent per. biduum in infus. cum. vin. hispanic. ℥. vj. bibat cochl. vj. bis in die.

When he had taken of this, for some Days, his Yellowness went off, he began to Eat with an Appetite, and perfectly recover'd.

Observation XLIV.

L — P — Commander
of his Majesties Ship the — was
taken ill with a want of Appetite,
a difficulty in digesting his Victuals,
his Excrements were White, ne-
ver tinctur'd with Bile, his Urin was
very high colour'd, and his Eyes yel-
low.

'Tis almost plain that in this weaker secretion of the Bile from the Blood, its want of conveyance into the Intestines, and by its fre-
quent and repeated Circulations with the Blood, that this extraordinary thickness of the Blood, and Bile is

H to

to be mended, without having any respect or consideration to the particular ferment, which some Authors fancy, contributes towards the separation of the Bile, in a healthy state, and to be now defective upon this occasion ; and because I have prov'd that Vomiting does contribute powerfully, towards making the Blood more Fluxil, and resolving obstructives especially in the Liver ; I order'd him this Vomit next Morning.

R. Tartar. emetic. gr. v. solv. in vin. alb. cochl. unic. ac bibat cum Regimine.

It wrought seven times with him, and made him go twice to Stool ; and the Day after he took the following Purge.

*R. decoct. amar. purgant. cum dupli-
ci senna 3vj. syr. de rhamn. 3ij. M. ac
bibat cum Regimine ; ac interjecto die
uno vel altero, repetatur ad aliam vi-
cem.*

The

The success answering our expectation, he began to Drink of an Infusion I order'd to be ready for him, against he had taken his Vomit and Purge; and 'twas made thus.

By rad. gentian. rub. tinctor. an 3 ij.
summitat. centaur. minor. absynth. an
M. ij. fl. Chamomil. sambuc. genist. an
M. j. cortic. aurant. sicc. 3 ℥. bac-
car. junip. 3 ij. croc. 3 ij. Infus. bid.
in vin. alb. ℥. iv. bibas. cochl. v. bis in
die.

By all which, and drinking fifteen drops of *Elix. proprietat.* in a Glass of White Wine, before Dinner, he recover'd perfectly in a fortnight.

But as I was saying before, it is most pleasant and diverting, to see what absurdities, these patrons of an unreasonable ferment suppos'd to be lodg'd in a certain and peculiar part, are brought into; for besides the Chimerical Existence of this Notion evidently made out in the mention'd Book, they are not only oblig'd to maintain a ferment to se-

parate every one of these ferments *in infinitum* in every one of these Solutions ; or else to fix upon some single one that was implanted in every one of these Parts, in the beginning, and at the first minute of Generation ; which nevertheless must be diminish'd in part, by its action upon these Liquors it dissolves, melts down and precipitates ; and yet it must never be intirely wasted ; and if it is intirely exhausted, there can no way be assign'd how it is to be recruited and repair'd ; but even, if we be sick by any of these Ferments falling from their natural state, they are never to be repair'd by the force of any remedy, except it be separated from the Blood, *without* the help of any ferment, for if no solution can be in the Blood, without the help of a Ferment, neither will any specifick Med'cin give its force to the languishing Ferment ; because it is requisite that the specifick Med'cin of every one of these Ferments be deriv'd into their Cells, and that this may be done, it must be mixt with the Blood, and separated from the

the Blood into these different Cells, and so be mixt with the languishing Ferment; but, by the supposition, there can be no secretion, without a Ferment, and, because the Ferment is decay'd, wasted or spent; therefore this specifick remedy for recovering this Ferment, cannot be separated from the Blood and mixt with it; wherefore the languishing Ferment can never be repair'd by the specifick Med'cin that is transmitted to the Blood.

And if it be true, that our Patients by the taking of such Med'cins do reeover their Health, we may conclude from hence, that such peculiar and specifick Ferments are meer Chimera's, and have no real being, and that the cause of the Disease was not thro' the defect of any decay'd Ferment; since the sick Person does recover his Health, without the Med'cins that they suppos'd to be the recruiter of the languishing Ferment, arriving at the Ferment it self; and therefore the conclusion is evident, that there are Secretions without a Fer-

Ferment, and that peculiar Ferments are no less confidently than weakly establish'd by their Patrons. I might have easily pass'd by this, in perfect silence, but that this supposition of a Ferment is such among the Chymists, and of that consequence, that they make the whole Art of Physick turn upon it; and yet 'tis plain to any one how great difficulties they put themselves upon, who maintain and suppose these specifick or peculiar Ferments; and with how weak and uncertain a Foundation he's contented with, who sets up with a dependance upon this Doctrine of Ferments.

The more I reflect upon the way of making Secretions from the different Velocities of the Blood, as it is found asserted in my *Oecon. Animal.* I do not only think it infinitely to be prefer'd before this precarious way by specifick ferments, but ev'n before any other hitherto alledged, as I have prov'd at great length: But it seems the most natural in resolving Phænomena of the Secretions; and the more so, if we consider

der that it is sufficient and only necessary that the make of a Glandul is such, that the parts of any Liquor that flows mixt, but loose, into its Cavity may be deriv'd into the discharging duct; not entirely and in the confus'd mass, but such and such parts only as come nearer to their separation, by consequence of the different velocities the Liquor has in its departure from the Heart: And we must still more readily assent to this, that we bring into our Memory the common accidents that happen to Blood every Day, by Phlebotomy. The red part of the Blood that seem'd to fill up all the Porren-ger in time of the Operation, does as 'twere contract it self by degrees towards the centre, and removes peace-meal tho' sensibly from the surface, and the growing space which it leaves a'top, is fill'd with a clear Li- quor, that congeals upon the Fire, and we commonly call the *Serum* of the *Blood*. All this while, the redder part of the Blood which thus contracts it self in the centre of the Ves- sel, becomes *Hard* or grows toge- ther; and if we hold our Nose and opened

opened Mouth over these Liquors, they send up such steams that affect our smelling very ungratefully, and create in us a very unpleasant and nauseous Taste. We see here what secretions are perform'd, without a Ferment ? And that That which affects our Tongue, and Nostrils, rises out of the same very Vessel, and offends both these senses with its ungrateful touch ; yet this Liquor (which by the bye cannot be thought Homogeneous) is separated from the other Liquors, and without a Ferment too ; but this Liquor was contain'd in the Blood, and if it had been brought into a Glandul, fit to receive this invisible steam, it might have been as easily seperated in this Glandul, without a Ferment, as we see it is separated in the Vessel. And so we might reason about the other parts. But if we conceive, as we ought to do, that this effect of the different velocity can perform the same things that the different degrees of Heat do in a Chimical Vessel, (for it must not be imagin'd I think that it can make any Chimical preparation, but

but that these different velocities can dispose the Blood for several Secretions, as the different degrees of Heat can produce several Bodies in the same Vessel :) I say that all this will be most evident and plain to such as can run this Paralell to its proper length.

From my Lodgings
in Great-Suf-
folk-street near
Charin-Cross,
Sep. 28. 1696.

Great part of this remark upon
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